GATEWAY, GARDEN OF THE GODS.

COLORADO SPRINGS

SEVEN FALLS CHEYENNE CAÑON.

BROADMOOR CASINO.

THE DENVER LITH. CO. DENVER, COLO.

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COLORADO SPRINGS

COLORADO.

AT THE FOOT OF PIKE'S PEAK.

ITS MANIFOLD ATTRACTIONS

AS

A HEALTH RESORT

A PLEASURE RESORT

A SCENIC CENTER AND

A RESIDENCE CITY.

TOGETHER WITH A COLLECTION OF

MEDICAL FACTS

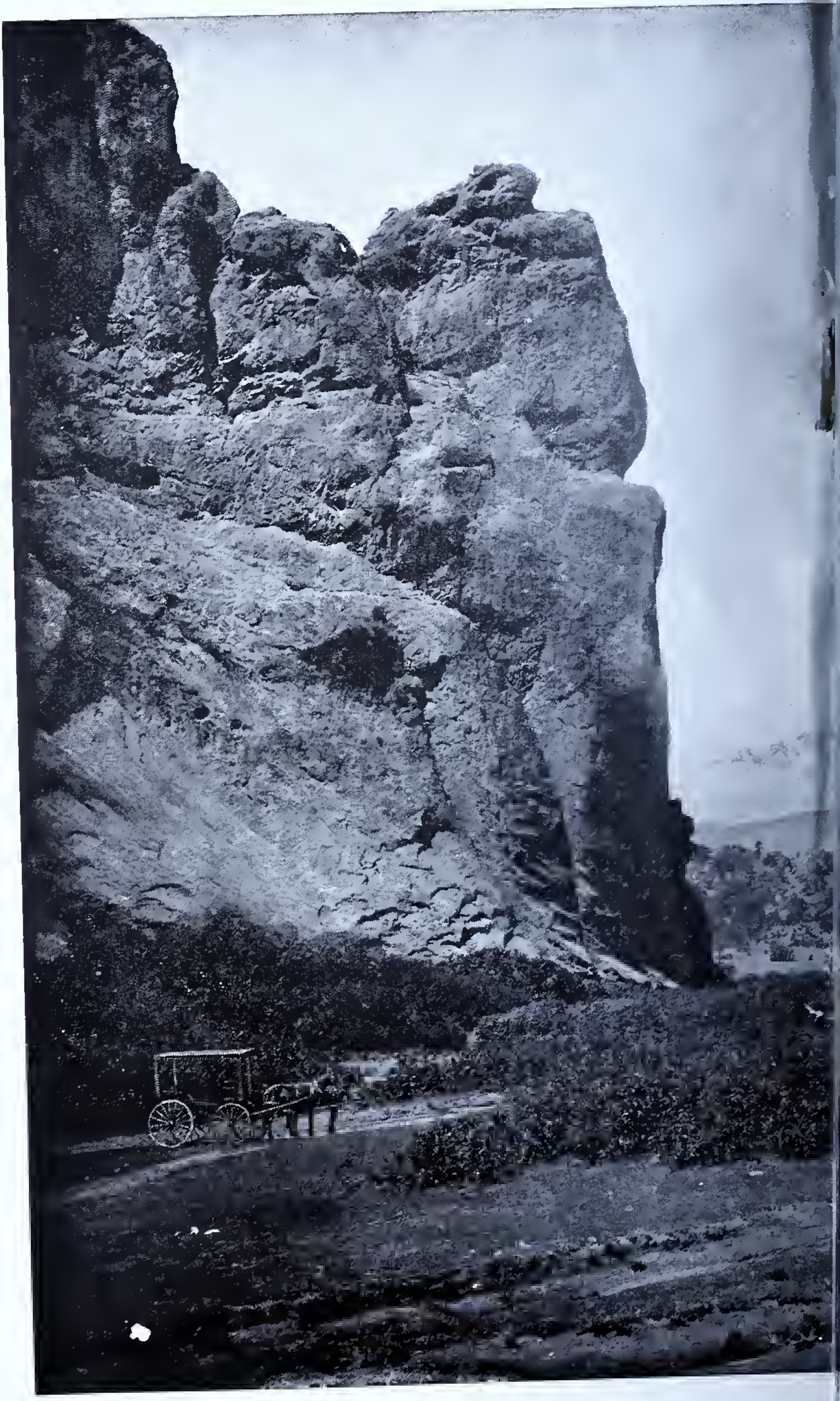
CONCERNING

COLORADO SPRINGS.

BY GEO. REX BUCKMAN,

Secretary of the Colorado Springs Chamber of Commerce.

1892.



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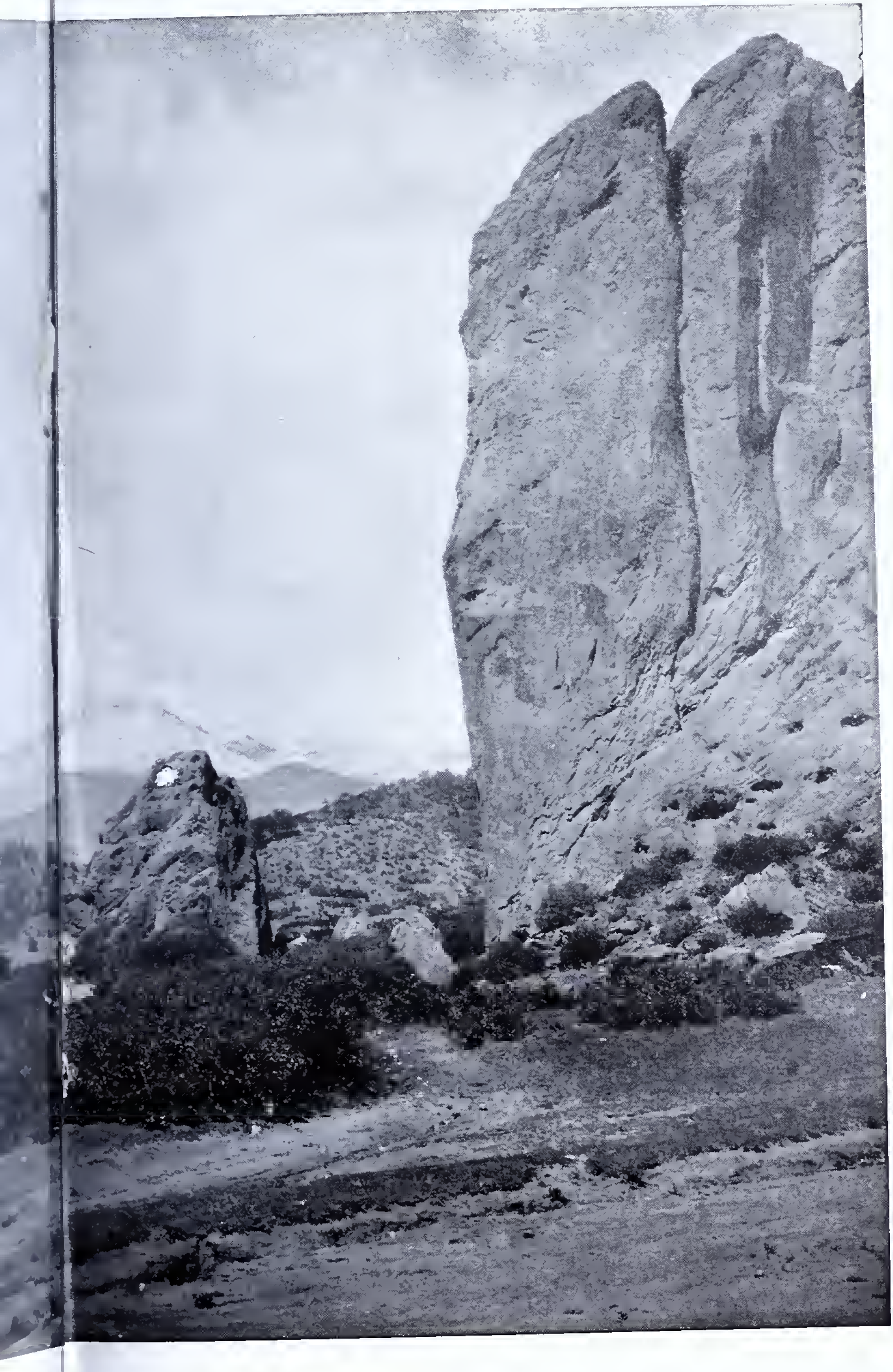

ARDEN OF THE GODS.

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All inquiries concerning Colorado Springs and the Pike's Peak region will receive full and prompt replies if addressed to

GEO. R. BUCKMAN,
Secretary Chamber of Commerce,
Colorado Springs, Colo.

THE GAZETTE PRINTING CO., COLORADO SPRINGS, COLO.

COLORADO SPRINGS.

It is scarcely more than a score of years since the Pike's Peak region was a veritable *terra incognita*, the home of the Indian and of the wild beast; to-day a charming little city, whose fame as a health and pleasure resort has long since become world-wide, lies under the shadow of the grand old peak which, beacon-like, guided the Colorado argonauts across the plains to the Eldorado of their dreams. Well deserved, too, is its reputation; it is populous and prosperous to-day because it is confessedly one of the most healthful and delightful places of residence upon the continent or, possibly, in the world. Its unequaled climate (the result of its far inland location and its altitude of 6,000 feet above the sea), the grand and inspiring mountain scenery by which it is environed, and the health-giving properties of its pure, dry, rarefied air and medicinal waters, are the attractions which annually bring to Colorado Springs thousands of health and pleasure seekers; while its present population of 13,000 is largely composed of those who, visiting the Pike's Peak region in quest of health or in pursuit of pleasure, have become enamored of its charms of climate and environment, and have built their beautiful and often costly residences upon its shaded streets. It has an unsurpassed location—a level stretch of plain at the base of the easternmost range of the Rocky Mountains, and literally under the shadow of Pike's Peak, Colorado's historic landmark. Its broad streets, bordered with trees, command views of lofty peaks, richly-colored foothills and wide-stretching plains which challenge comparison with the most noted Alpine prospects, while in its immediate vicinity are a score of scenic wonders—all easily accessible by finest natural roads, and the majority by electric railway—which have drawn tourists from all parts of the world. And above all, the perfection of the Colorado climate, now world-famous, is here attained, and is the loadstone which has drawn from almost every part of the civilized world, but principally from the cities of the East and South, a population of exceptional intelligence. That Colorado Springs exists, flourishes and grows is in itself ample proof that here is found a climate which restores health to the valetudinarian and, by its tonic air and abundant sunshine, imparts health and vigor and the delights of a new existence to all who come within its influence.

CASCADE AVENUE AND CHEYENNE MOUNTAIN.

LOCATION.

The Rocky Mountain plateau is unquestionably the most healthful portion of the United States, and Colorado Springs was located at what was believed to be the most desirable point in all this favored region; for not only is this locality pre-eminently healthful and health-restoring, but it holds a wealth and variety of scenic attractions which alone would have sufficed to make it famous. An imposing spur of the Rocky Mountains sweeps from north to south, culminating directly opposite the city in Pike's Peak, rising 8,000 feet above the level of the city and 14,147 feet above the sea. An air-line to its summit would measure twelve miles; by the shortest of the winding trails by which its summit is gained the distance would be eighteen miles, and by the newly-completed cog railway, fifteen. In front of the snowy range, of which Pike's is the most conspicuous peak, is a line of foot-hills of rich brown color and partially covered with pines. Their average elevation is about 4,000 feet above the city, and the base of the nearest is about four miles distant. Colorado Springs itself has an altitude of 6,000 feet, or about one and one-eighth miles above the level of the sea.

It has been said that it is four miles to the foot-hills and twelve to the Peak, but these distances give the sea-level reader no sort of idea of the relative situation of mountains and city. The range in all its length seems close at hand; the deception is by no means fanciful, but real. The mountains are practically alongside the city, which is just distant enough to permit an extended view. What this view is, through all the range of the seasons, we cannot attempt to describe. To those whose privilege it is to be for any time under the shadow of this majestic range it assumes a distinct individuality; its phases are watched and noted in something the same manner as one might the expressions on the countenance of a dear friend. Who could hope to write the record of these panoramic changes—from the rosy tints of the dawn through the morning, when the intense light melts foot-hills and range into one mighty mass rising like a perpendicular wall; through the afternoon, when the sheen of the declining sun reveals the depths and shows in its true proportions the mighty perspective with its glories of light and shade and the hitherto unsuspected canons and gorges; past the splendors of the sunset till the peaks stand, still vivid, in the starlight! And even were this accomplished it would represent but a single day—and never are two alike.

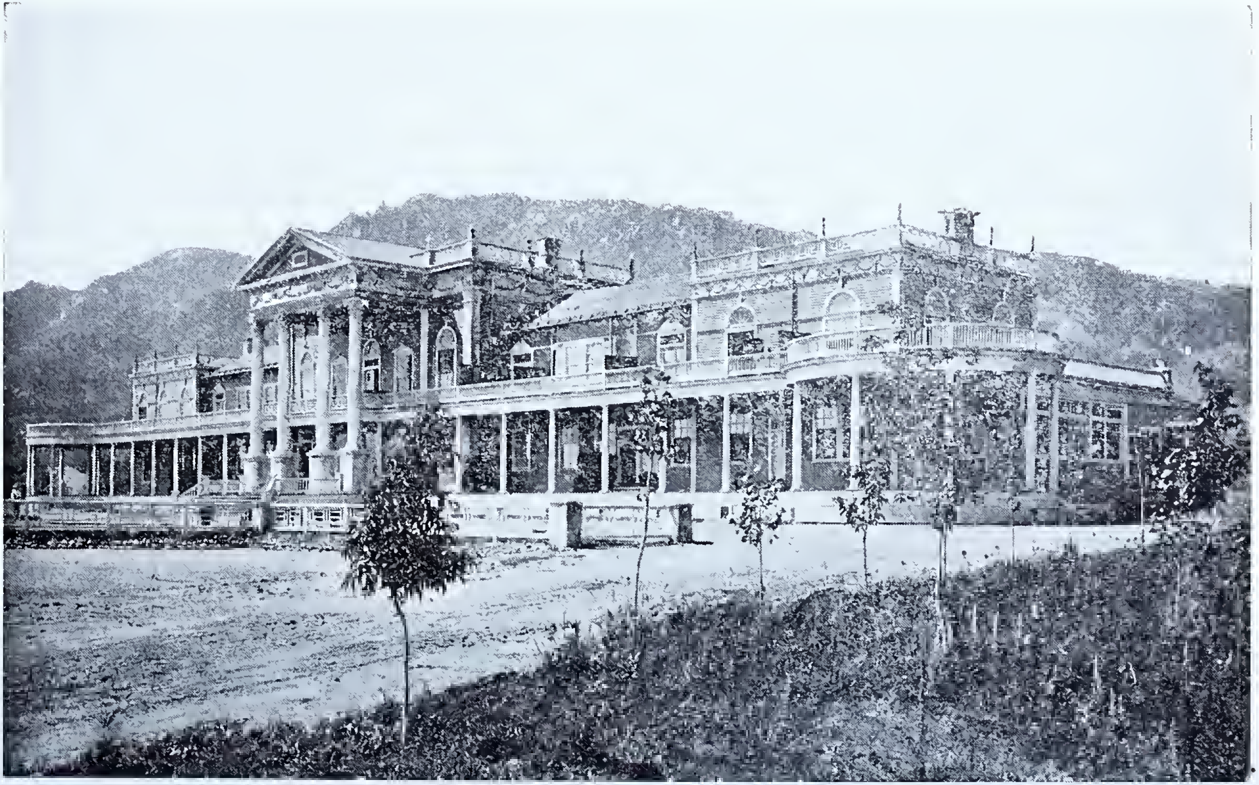
To live in constant view of such a mountain range is the inspiring privilege of the residents of Colorado Springs.

ACACIA PARK.

SCENIC ATTRACTIONS.

But while the view of these mountains to be had from the broad avenues of Colorado Springs is grand and inspiring, yet a further revelation of wonder and delight awaits all who seek their closer acquaintance; for in all their length, from Cheyenne Mountain on the south to Monument Park on the north—a distance of fully ten miles—these mountains hold a wealth and variety of wonder and charm unmatched within any other like area on the globe. For they are riven by profound canons and gorges; wonderful monoliths, many colored, stand sentinel at their base; medicinal springs with healing virtues bubble up amid their foothills. In the exact center of this wonderland is Colorado Springs; from it the finest of natural roads, and in many cases branches of the electric railway, radiate like the spokes of a wheel to each of the several points of interest. The most remote of these is within six miles of the city—a distance which, over smooth roads and with inspiring views on every hand, is all too quickly traversed. Any complete or worthy description of these wonderful scenic features, about which so much has been written and sung and which have commanded the admiration of tourists from every part of the world, is impossible in this little book; we can do little more than indicate their location and general characteristics.

THE CHEYENNE CANONS—About four miles southwest of Colorado Springs, and reached either by carriage or electric railway, are the Cheyenne Canons, known respectively as the North and South Canons. These are stupendous gorges which untold ages have cut in the solid granite, whose rock walls rise perpendicularly from 1,000 to 1,500 feet. Between these walls, which in places are only a pebble-toss apart, dash sparkling mountain streams. The main portion of the South Canon is about three-quarters of a mile long, at the end of which the visitor encounters a frowning rock-wall down which the stream plunges in a series of beautiful cascades known as the Seven Falls. The level of the topmost of the falls can be reached by a stairway constructed on the rocky wall of the canon, from which point superb views are gained of the canon itself and of the plains beyond. A trail also leads from this point further up on the side of Cheyenne Mountain to where H. H., the authoress and poet, was buried at her own request and where her body rested for a number of years, having but recently been removed to the Colorado Springs cemetery. This spot will long remain a place of tender memories to all who knew and loved the sweet singer.

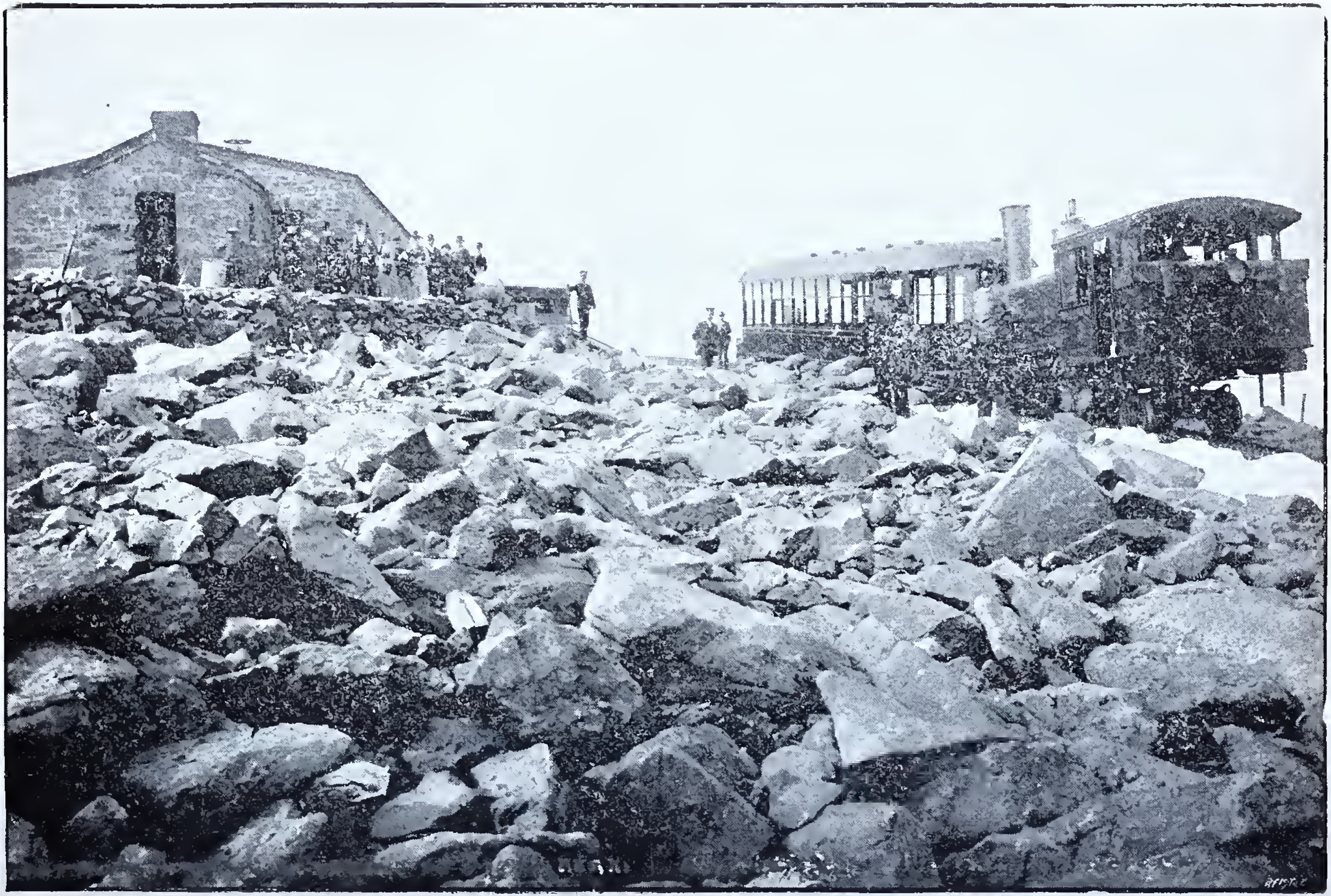


THE BROADMOOR CASINO.

North Cheyenne Canon, the entrance to which is found about a quarter of a mile further north, may be traversed by carriage for a distance of two miles or more. This canon abounds in waterfalls and cascades, and while its walls are quite as lofty as those of the South Canon, they are more varied in form and coloring. Beautiful, picturesque and in places awe-inspiring are these mighty gorges, calling forth deepest emotions in all beholders. In the summer they are a mass of leafy bloom, odorous with the mingled scent of the pines and the blossom-laden trees.

CHEYENNE MOUNTAIN—A carriage road climbs the slopes of Cheyenne Mountain on its way to the Seven Lakes and Pike's Peak, affording magnificent views of the plains and the city and of the mountain fastnesses which it afterwards penetrates. The grave of H. H. is likewise easily reached by this road. The distance to the summit of the Peak by the Cheyenne Mountain road is twenty-two miles, the Seven Lakes, five miles from the summit, affording a most interesting and comfortable place to spend the night. Many prefer this route to the Peak because of its varied and magnificent scenery.

THE BROADMOOR CASINO—A notable addition to the attractions of Colorado Springs is the Broadmoor Casino, which was opened in July, 1891, and sprang into instant popularity. It is situated at the base of Cheyenne Mountain, not far from the entrance to the Cheyenne Canons, and is connected with the city by electric railway. Here the Broadmoor Company has erected a casino building which is declared to have no equal in America, together with pavilions, electric light plant, ornamental parks and grounds, with a large lake, the whole costing about $250,000. Here the visitor may row or sail upon the lake, or enjoy a cuisine of peculiar excellence, or listen to the strains of a famous orchestra, while gazing from broad piazzas upon towering mountains or over the limitless expanse of the plains. Popular and classical evening concerts, and dancing upon the polished floors of the casino and pavilion, are additional features of interest and attraction to be found at Broadmoor. No description of the Broadmoor Casino, unless adequately illustrated, can hope to give any just idea of its beauty and elegance, nor of the completeness of its every feature. It must suffice to say that it has commanded the admiration, not unmixed with astonishment, of all visitors, and none the less when these had perfect acquaintance with the noted resorts of the East and with the German, French and Italian spas.



SUMMIT OF PIKE'S PEAK.

ON THE COG WHEEL ROUTE TO PIKE'S PEAK.

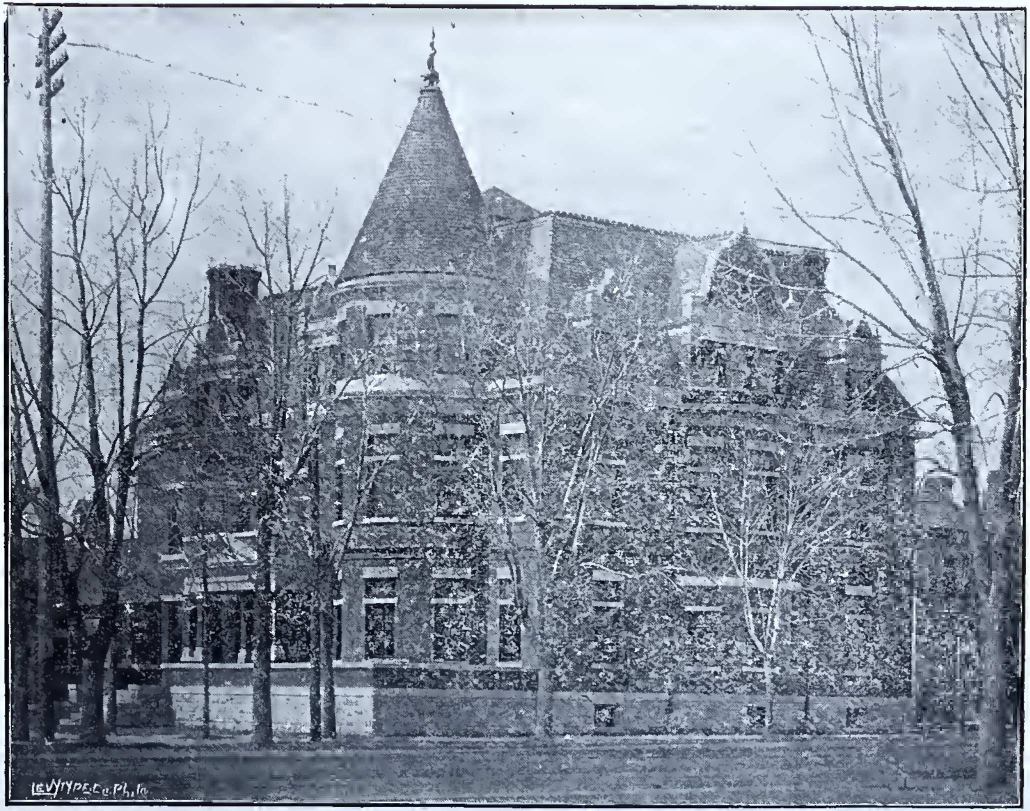
The celebrated Hungarian Orchestra, which was a prime attraction of the Casino last year, was promptly re-engaged for the present season. Two concerts are given daily, comprising popular and classical music, with dancing three evenings of the week.

BEAR CREEK CAÑON—A carriage-drive of three miles from Colorado Springs brings the visitor to the entrance of Bear Creek Canon, through which the first Government trail to the Peak was constructed, since replaced by an excellently-built wagon road. This canon, like its neighbors on the south, contains a succession of grand and inspiring views, having many beauties peculiarly its own. It conducts to the Seven Lakes and Pike's Peak.

MANITOU SPRINGS—Five miles from Colorado Springs, and connected by two lines of steam railway, by electric railway, by roads and boulevards, is the village of Manitou Springs, situated in a cleft of the mountains at the entrance to Ute Pass. Manitou is essentially a summer watering place, the majority of its hotels being open during the summer season only. Three canons converge at Manitou—Ruxton and Williams Canons and Ute Pass—all of which are striking scenic features. Through the first of these runs one of the principal trails to the summit of the Peak, as does also the Cog Railway, to which reference will be made hereafter. The iron and soda springs at Manitou are justly famous, having a wide curative range. The Manitou Mineral Water Company has built up an important industry in the bottling of the water of the famous Navajo Soda Spring, which is now used as a table water the country over. In its admirably arranged bath-house adjoining the bottling establishment the deservedly popular soda and plunge baths may be enjoyed.

THE PIKE'S PEAK COG RAILWAY—Last summer witnessed the completion of one of the most audacious feats of engineering to be found in this or any other country, namely, the Cog Railway to the very summit of Pike's Peak. This wonderful railway has a length of eight and three-quarter miles, in which the ascent is 8,100 feet, or an average of 846 feet per mile. Its maximum grade is 25 per cent. It is built in the most substantial manner, all its bridges and culverts being constructed of stone or iron, and its equipment is thoroughly first-class and elegant. Its cost was close to $1,000,000. In its elegant observation cars one may make the famous ascent in comfort and safety, witnessing on the way a panorama of grandeur and sublimity without an equal on the continent.

THE CASCADE WAGON ROAD—Another popular means of ascending the Peak is via the Cascade Wagon Road. This starts from Cascade,



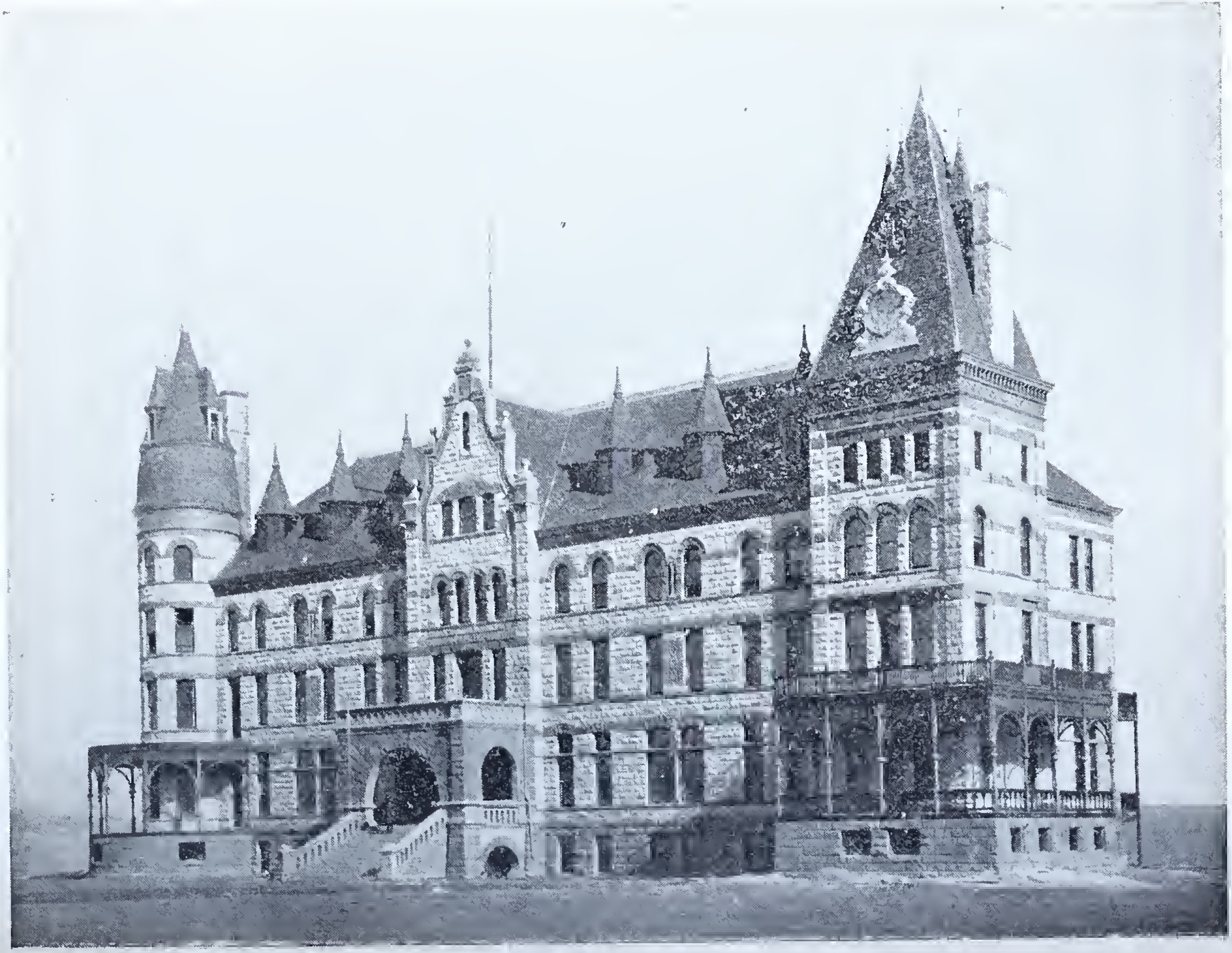
EL PASO CLUB.

a point in Ute Pass, on the line of the Colorado Midland Railway and eleven miles from Colorado Springs. Awaiting the morning train may be found mountain wagons, drawn by four horses, in which the ascent, over the splendidly-built highway is safely and speedily made. The scenery from this, the highest wagon road in the world, is a panorama of unimagined and unrivaled grandeur. So great is the popularity of this route that seats in the wagons must be engaged several days in advance.

THE GARDEN OF THE GODS—No scenic feature in the vicinity of Colorado Springs has such a world-wide fame as has this play ground of the Titanic forces which reared the mountains when the world was young. To reach the famous Garden, we take the Mesa Road, which leads northwesterly from the city, and after a delightful drive of four miles we enter it through its famous Gateway. Through this stupendous portal, formed by two red sandstone monoliths, each 330 feet in height, we enter a region as wonderful as it is impossible of description. Here are rocks of every conceivable size, shape and color, stupendous, awe-inspiring, fantastic, grotesque. It is fascinating because of its very incongruity. Here cathedral spires to furnish a very Milan; there a patch of gigantic mushrooms; on this side, solid rock shafts against which all the forces of modern enginery might beat in vain; on that, an enormous rock so delicately poised that one almost fears to lean his puny weight against it. The imaginative visitor finds abundant employment. Here are frogs and seals, bears and camels, lions and mushrooms and many other creatures, all carved from the rock by the elements through forgotten ages. And over all, the great peak rears his hoary summit, omnipresent from his majectic stature.

GLEN EYRIE—Adjoining the Garden on the north, and but a half mile distant, is Glen Eyrie. Magnificent rock forms, of every color from lightest pink or rose to dark green, abound in this most fascinating nook where General Wm. J. Palmer many years ago built his beautiful residence. From Queen's Canon, in which the Glen terminates, issues a crystal mountain stream which flows through a tangle of shrubbery. A drive through Glen Eyrie in midsummer is most charming and delightful. The odor-laden air, the wild flowers blooming on every side, the singing brook, the majestic rocks towering aloft—all conspire to fascinate and charm.

BLAIR ATHOL—About three miles north of Glen Eyrie is Blair Athol, similar in its general characteristics to the two places just described, yet having an individuality of its own, its great rocks being quite different in composition and coloring.



CHILDS-DREXEL HOME FOR UNION PRINTERS.

Monument Park—Six miles north of Colorado Springs is to be found a region containing rock forms altogether different from those previously described. The Park is composed of two long glades bordered by lines of hills, along whose sides are found the monuments from which the Park derives its name. The peculiarity of these lies in the fact that the shafts of yellow sandstone, standing singly or in curious and often suggestive groups, have each a projecting cap of a harder rock. Many of these shafts are thirty or forty feet high, and the imagination is very slightly taxed to recognize the "Dutch Wedding," the "Three Graces," "Vulcan's Anvil," and other notable groups. It is a weird, strange and most interesting region.

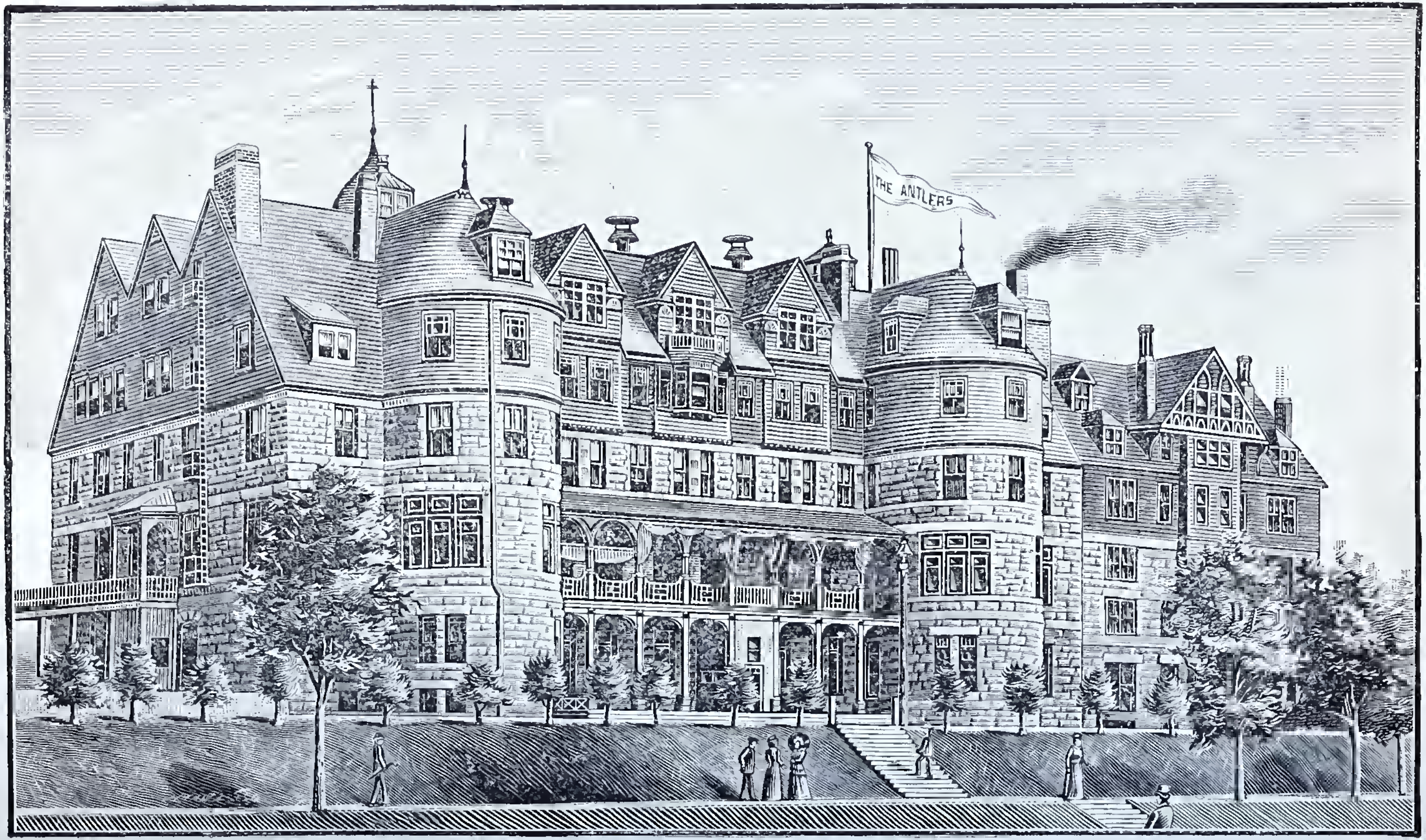
Austin Bluff—About three miles northeast of the city is Austin Bluff, from the summit of which a magnificent view of plains and mountains may be obtained. The rocks are of a formation similar to those in Monument Park, and the place is well worth repeated visits.

Prospect Lake—Two miles southeast of Colorado Springs is the considerable sheet of water known as Prospect Lake. Row-boats, sail-boats and a steam launch may be found at this resort, where lovers of aquatic sports will find much of interest and pleasure.

In the foregoing pages we have but touched upon the chief places of interest in the vicinity of Colorado Springs; space forbids anything like a complete or exhaustive description or even enumeration of the manifold attractions of this wonderful region. It may be said truly that the visitor can spend every day for three weeks in sight-seeing, visiting each day a new locality, and even when this has been done he will be ready to begin again and repeat the delightful programme without any diminution of interest and pleasure. The canons afford the most ideal picnic grounds. A midsummer day spent in Cheyenne or Bear Creek Canon will long remain a delightful memory. The canons, the Garden of the Gods, Glen Eyrie—these in particular may be visited again and again, each time with a heightened pleasure and appreciation.

CLIMATE.

Of the climate of Colorado Springs, we have not space adequately to speak; its charms and fascinations have formed the theme of many pens. A light, dry, tonic and electrical atmosphere, with an abundance of sunshine and clear weather are its dominant features, with the further important fact that it is almost equally good at all seasons of the year. There are exceptional days in winter when the mercury drops below



THE ANTLERS HOTEL.

zero, and summer days when it may range among the nineties; but the great dryness of the air robs even these extremes of their unpleasant effects. But the average resident or visitor concerns himself but little about the readings either of the thermometer or barometer. It is enough for him to know that the days are infrequent, summer or winter, when it is not a delight to be out of doors during most of the hours of sunshine; that the absolute dryness of the ground, coupled with the bright, warm sunshine, renders tennis and other outdoor amusements possible, with but occasional interruptions, throughout the year; that walking, riding and driving are perennial enjoyments, and that the light, tonic air incites to such healthful exercise. But it must not be inferred that the climate is even semi-tropical in its character. This warmth and mildness has in it no qualities which cause enervation. Summer and winter the air is cool; summer and winter the resplendent sunlight, flashing through an atmosphere a mile less in depth than at the sea level, is always warm. Summer nights are uniformly cool, sometimes even cold, but rarely chilly. During six months of the year rain is unknown. The annual precipitation—rain and melted snow—is about fifteen inches, the greater part of which falls during the summer in dashing showers of brief duration. The snow-falls are uniformly light, and snow rarely lies on the ground for more than a few days.

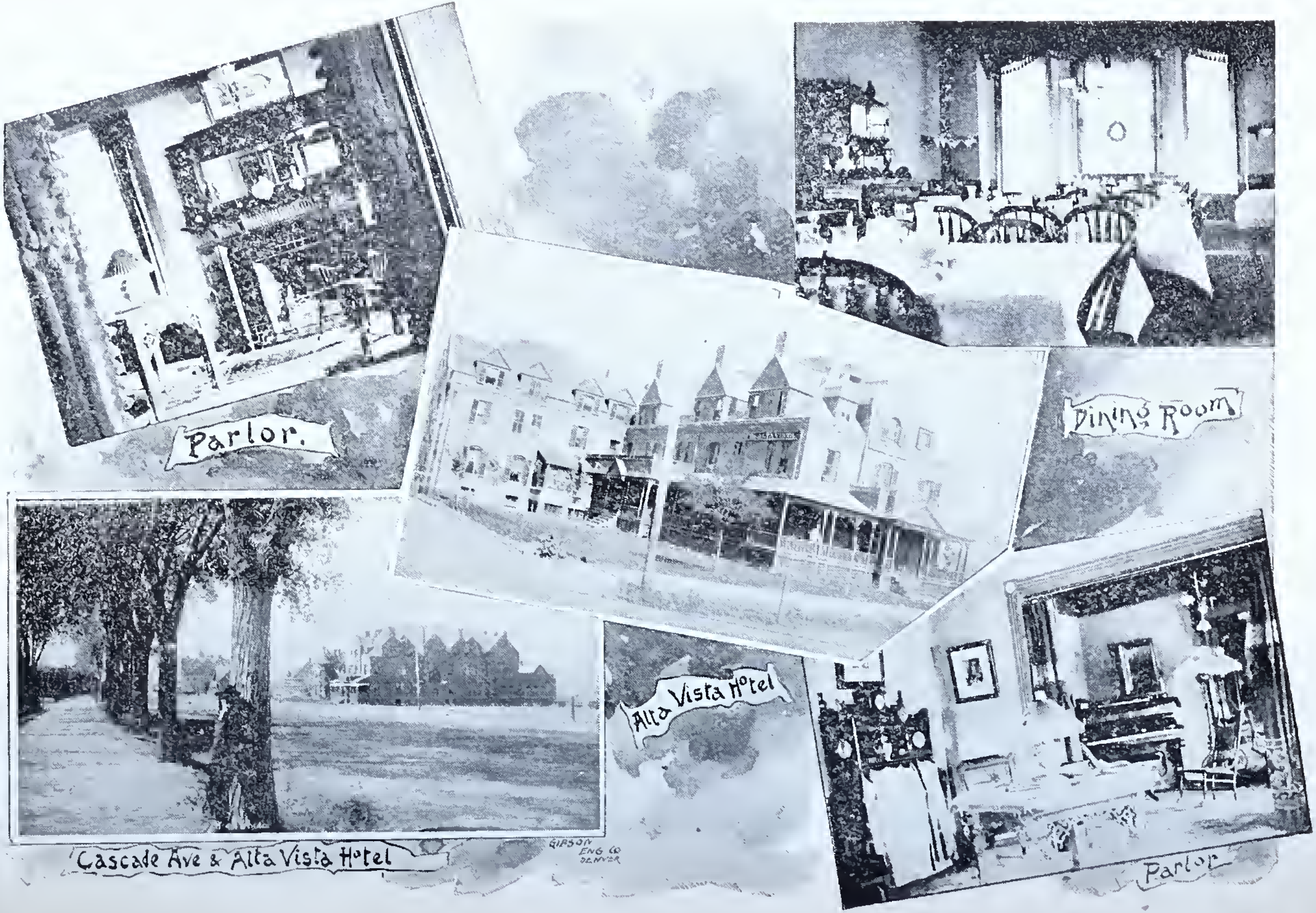
Taking it all in all, we doubt if there is another spot on this broad earth where the climate, through all the range of the seasons, is so uniformly delightful.

A HEALTH RESORT.

What this climate has been and is doing for tens of thousands of invalids the growing reputation of Colorado Springs abundantly exemplifies. Here the asthmatic almost invariably finds relief; consumption in its earlier stages is arrested and cured, and amelioration afforded at all stages; the long train of evils brought on by overwork is banished; the nervous and debilitated are built up; health and vigor and the delights of a new existence await all who come within the influence of the tonic air and abundant sunshine of this favored region.

A SUMMER RESORT.

These qualities of climate and charms of scenery likewise make Colorado Springs an unequaled summer resort for the tourist and pleasure seeker. The days are almost uniformly clear and bright, the brief daily shower but serving to freshen the air and lay the dust. All things



Parlor.

Dining Room

Alta Vista Hotel

Cascade Ave & Alta Vista Hotel

Parlor

conspire to make sight-seeing most delightful. Tourists in carriages, on horseback, or sometimes mounted on the meek-eyed burro, may each morning be seen starting out for one of the many points of interest, returning later in the day laden with the floral and mineral spoils of canon and mountain side.

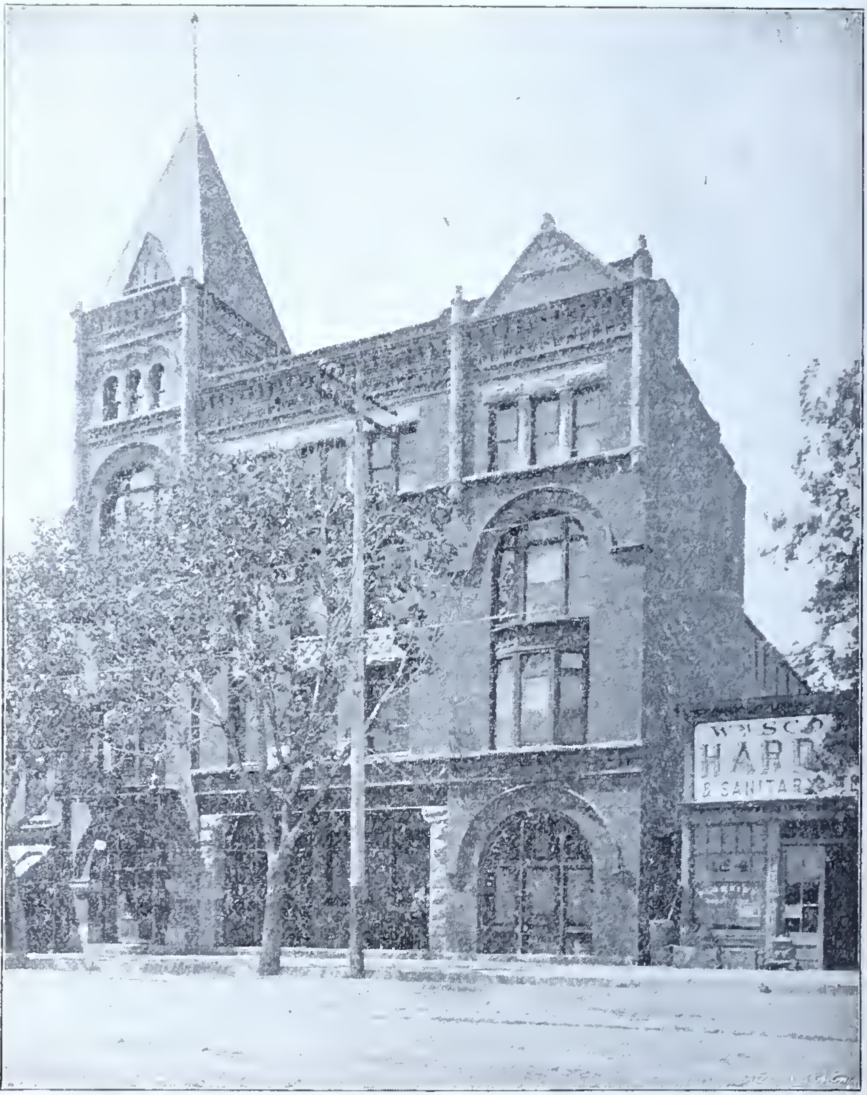
As a summer resort, Colorado Springs stands supreme.

A RESIDENCE CITY.

Colorado Springs, the center of this region of wonder and charm, is a city of about 13,000 inhabitants, who enjoy a large share of the advantages which attach to modern city life. It is supplied with water of absolute purity, piped from the sides of Pike's Peak. It has a complete and perfect sewerage system. It is lighted by electricity. It has about twenty-five miles of finely-equipped electric railway, with branches to Manitou, Broadmoor and the Cheyenne Canons, and to Austin Bluff, affording a quick, cheap and delightful means of reaching these points of interest. It is provided with ample hotel accommodations for the thousands who annually visit it. Its hotels, to which particular reference will hereafter be made, are the very best of their several classes, while numerous boarding-houses, cottages and villas—furnished or unfurnished—afford a wide range from which to choose, and in which all tastes and purses may be suited. It has numerous liveries, giving excellent service with moderate charges. It has a handsome opera house. Its foremost club occupies its own building, costing $75,000. Its educational facilities are superior. It has numerous and costly public school buildings, and is also the seat of Colorado College which is taking high rank among the educational institutions of the land. Of its casino we have previously spoken. It has many handsome and costly church edifices, and numerous sanitariums, hospitals, and other charitable institutions. It is the seat of the State Mute and Blind Institute and of the Childs-Drexel Home for Union Printers, as well as of the main branch for Colorado of the Keeley Institute. And finally, it has a population of exceptional intelligence, drawn from almost every part of the civilized world, but principally from the cities of the East and South, among whom the visitor may find all the social pleasures incident to a refined and cultured community.

HOTELS.

As has been stated, Colorado Springs is well supplied with hotels of the several classes; of these we will note several of the most prominent:



THE ALAMO HOTEL.

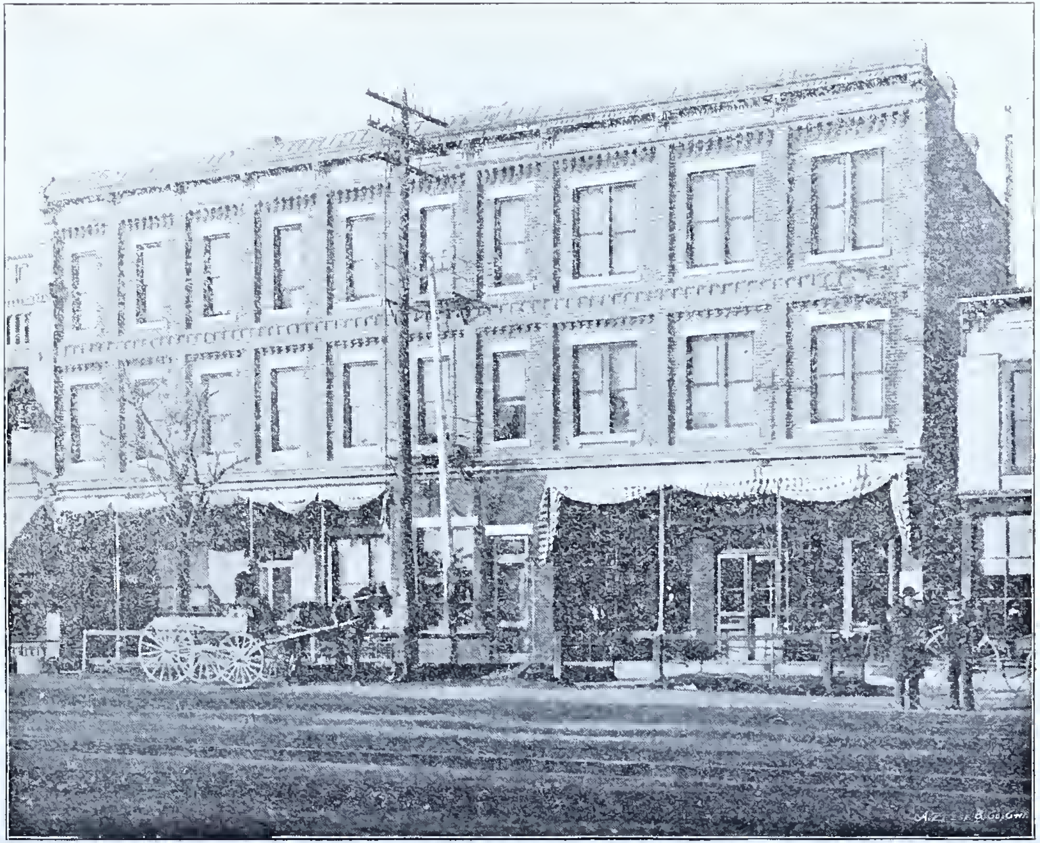
The Antlers—Is an ornate and imposing structure of cut stone, five stories in height, and costing upwards of $250,000. It is furnished with every appliance known to modern hotel construction, including electric light, steam heat, elevator, etc., and is regarded as one of the most elegantly conducted hotels in the land, with a reputation second to none. Its furnishings are elegant throughout and in perfect taste, and its cuisine is unexcelled. Handsomely furnished suites, comprising parlor, chamber and bath, are a feature of the Antlers. Mr. E. Barnett is the proprietor. The Antlers contains 200 guest-rooms—fifty at $3.00, fifty at $4.00, fifty at $4.50 and fifty at $5.00 and upwards per day. During the season music is furnished daily by the Antlers orchestra and frequent hops are given in the pavilion.

The Alta Vista—Situated on North Cascade Avenue, is a substantial three-story brick structure containing seventy-five rooms. While designed principally for families and permanent guests, it is nevertheless patronized by transients wishing to avoid the bustle of the larger hotels. It is furnished with all modern hotel conveniences, including electric light, steam heat and elevator. The Alta Vista is noted for the home-like atmosphere which pervades it, for the superiority of its table, and for a careful attention to the comfort and well-being of its guests. Mr. Edward W. Kent is the proprietor. The rates are from $3.00 to $4.00 per day, with special rates by the week.

The New Alamo—Is a handsome and commodious brick structure with brown-stone trimmings, and contains 150 guest-chambers. It is supplied with all the modern conveniences found in first-class hotels, including electric light, steam heat and elevator. Under a liberal and intelligent management the Alamo has earned an enviable reputation with the traveling public, with whom it is a very popular house, requiring frequent enlargements to keep pace with its increasing patronage. Mr. P. C. Helm is the proprietor, and the rates are from $2.50 to $3.50 per day.

The Elk—It is a large brick structure on East Pike's Peak avenue, containing 100 rooms furnished with electric light, steam heat and other modern appliances. Mrs. Kenny and Miss Ord are the proprietors. The Elk is a well-conducted house and has a large patronage. The rates are from $1.50 to $2.00 per day; special rates by the week.

The Spaulding House—Is a commodious structure, situated on South Tejon street, opposite Alamo Park. It contains 110 guest-rooms, supplied with electric light, call-bells, steam heat, and other modern



THE ELK HOTEL.

comforts and conveniences. The fact that the Spaulding has grown from small beginnings to its present large size proves that it acceptably meets the wants of the traveling public. Mr. J. A. Himebaugh is the proprietor. The rates are from $1.25 to $2.00 per day; $6.00 to $10.00 per week.

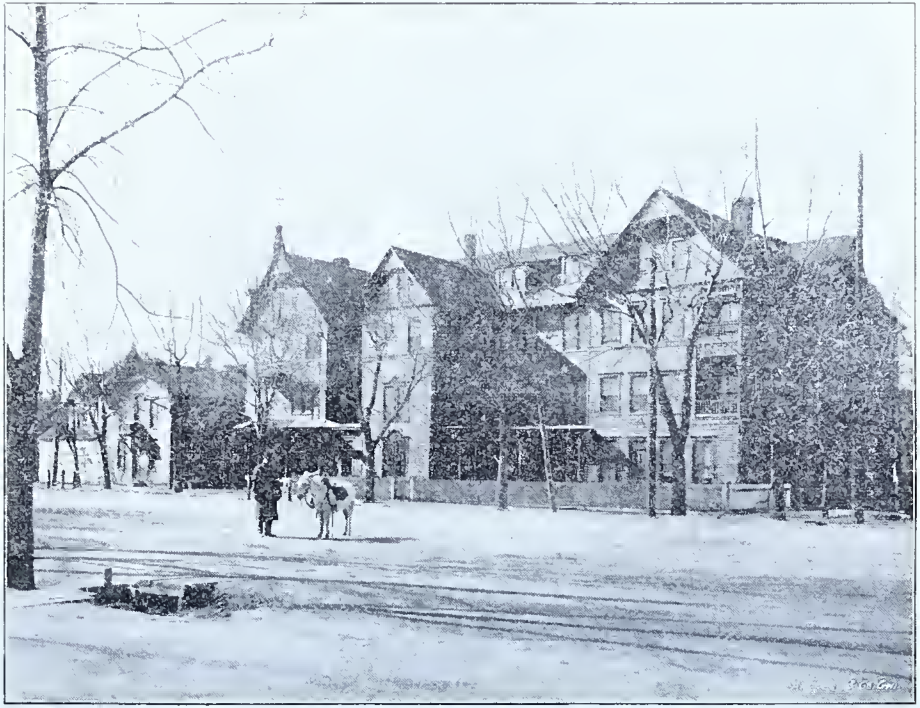
Visitors will find at all the hotels a uniform courtesy and a desire to render their stay in the city altogether agreeable and profitable. Information concerning the points of interest and the best method of utilizing time in viewing them is at all times cheerfully and courteously given.

A RAILROAD AND BUSINESS CENTER.

In addition to these great attractions as a tourist and residence city, Colorado Springs has already begun to play an important part in the present rapid development of the Rocky Mountain region. Situated at the entrance to Ute Pass, one of the great natural highways into the mountains, it must of necessity become an important commercial center, and share with Denver and Pueblo the tribute of the mountains and plains. Six lines of railway center in Colorado Springs. The main line of the Denver & Rio Grande Railroad passes through it on its way to Leadville, Salt Lake City and the Pacific Coast. It is the eastern terminus of the Colorado Midland Division of the Santa Fe, which traverses Ute Pass to Leadville, Utah and the Pacific Coast. It is the western terminus of the Great Rock Island Route to Chicago and the East. The Denver Extension of the Santa Fe also passes through Colorado Springs, affording direct connection with Chicago and the principal cities of the East. The Fort Worth Division of the Union Pacific connects Colorado Springs with Texas and the Gulf. And lastly, the Missouri Pacific reaches Colorado Springs from Pueblo over the tracks of the Denver & Rio Grande. Thus is Colorado Springs directly connected by trunk lines with all the principal cities of the East, with the empire of Texas and the ports of the Gulf, and with every mountain town and mining camp which help to swell the stream of Colorado's mineral and agricultural wealth.

THE CRIPPLE CREEK GOLD FIELDS.

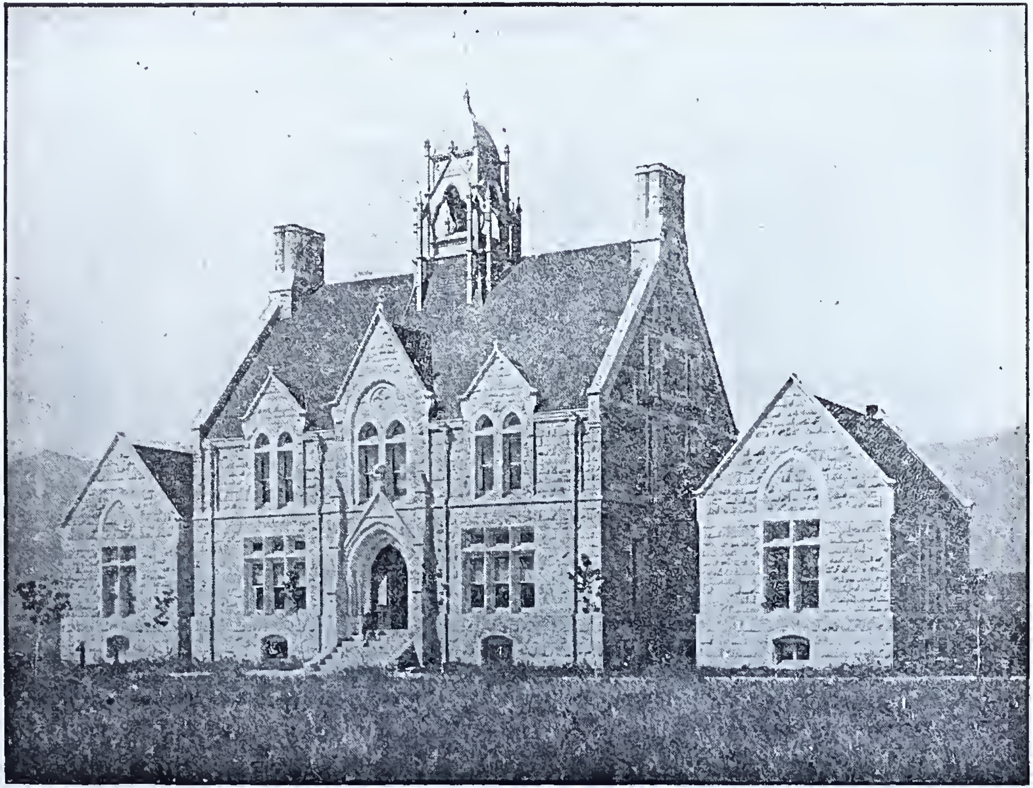
An event of great importance to Colorado Springs has been the discovery and development during the past year of the Cripple Creek Gold Fields, situated but about fifteen miles from the city. Development has been very rapid, and at the present writing—July, 1892—quite a



THE SPAULDING HOUSE.

number of the mines are already on the list of regular producers. People are now flocking in great numbers into the new region, which presents all the interesting and fascinating features, as well as all the opportunities for speculation, incident to the early days of mining camps.

Those contemplating a visit to the Cripple Creek region during the present season are advised to stop over at Colorado Springs, where the family can be delightfully domiciled at one of the numerous hotels or boarding houses, and enjoy the pleasures of this famous resort while the rougher trip to the mines is being undertaken. For combining business with pleasure during this summer's outing, we can suggest no more delightful and attractive arrangement. From Colorado Springs to the mines is but a few hours' journey, enabling one to go in the morning and return, if desired, the same evening, after spending several hours at the camp.



PALMER HALL, COLORADO COLLEGE.

AN INVALID'S DAY IN COLORADO SPRINGS.

By S. E. SOLLY, M. D.,

OF COLORADO SPRINGS.

[Reprinted from the Transactions of the American Climatological Association, May 31, 1887.]

One of the many difficulties that are encountered by the physician who endeavors to select the best climate for the patient whom he desires to send from home, is the imperfection of the meteorological data at his command. Assuming that he can obtain a record of thermometric and barometric means, of mean velocity and direction of wind, of mean relative humidity, and of total precipitation, he is still very far from gaining a fair estimate of what weather his patient is likely to encounter during the hours of daylight. Yet this is precisely the knowledge most important to obtain. Provided that the house and its accommodations are sufficiently good, the change of climate during the hours of darkness is of very little consequence, comparatively, whilst the atmospheric conditions during the daylight hours are what should chiefly determine the choice of locality. It is with a view of giving this information concerning Colorado Springs, that this paper is presented. I fear, however, that after this preamble, the information being so meagre and imperfect, the oft quoted "*Parturient montes, nascitur ridiculus mus*" will appear peculiarly appropriate, to typify this labor of the Rocky Mountains. Our means of recording a sufficiency and continuity of observations have been, until recently, so poor, that I am unable to contribute more than a fragment to the stock of information concerning an invalid's day in Colorado Springs. The demand for this knowledge is, however, so pressing, that I feel no apology is needed for giving the best at my command rather than waiting until the record is more worthy of your attention. We have within the last year obtained some self-recording instruments in addition to the ordinary ones in use; from these we expect great things; but, as is generally the case with what is new, there have been various accidents which interfered with the taking of continuous and accurate observations. The evidence offered in the tables appended in support of the statements I shall make is, in spite of the ability, accuracy and industry of the chief of the college observatory, Professor Loud, very inadequate to support them.

Colorado Springs, a town of some eight thousand inhabitants,* is situated upon a plateau, 6,022 feet above sea level, lat. 39, long. 105. It is about five miles from the foothills in which the eastern slope of the Rocky Mountains terminate, and from which the great plains stretch eight hundred miles east to the Missouri river, south to the Gulf of

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*The present population (1891) is 12,000.

Mexico, and north to the Black Hills. The plateau upon which it is situated is surrounded on three sides by mountains and hills, but lies open to the plains in its southern and southeasterly aspects. The barriers from the wind and weather that this semi-circle just described affords, being an average distance of four miles from the edge of the plateau upon which the town is spread, do not detract from its openness, or free exposure to the sun. Pike's Peak, lying to the west, robs it of the direct effect of the last beams in setting, but gives a longer twilight than is usual on this continent. The value of this semi-circle as a protection from storms is especially in the attraction it affords to the clouds that form upon the Peak, drawing the storms along its ridges to the northeast on one side, or the southeast on the other, and thus frequently leaving the plateau free from the rain or snow that forms upon the mountains. The surface of the town site is almost flat, with a gradual slope to the south, standing from seventy to twenty feet above the water-courses. There is a top soil of two feet, below which are sand and gravel to an average depth of sixty feet, where lies a clay bed, which follows the southward trend of the top soil. The soil is, therefore, very dry, nothing but buffalo grass growing without irrigation. The natural drainage is perfect. Water for domestic purposes is brought from the mountains in iron pipes. Trees, shrubs, flowers and lawns have been planted and thrive freely with the aid of irrigation. I have divided the invalid's day into the four seasons, in which the hours comprising the day vary as follows, viz., winter day, 9 A. M. to 4 P. M.; spring, 9 A. M. to 6 P. M.; summer, 8 A. M. to 7 P. M.; autumn, 9 A. M. to 5 P. M.; these arbitrary limits being about the average periods during which the invalids are usually out of doors. I will now proceed to sketch in outline the average day in midwinter.

After a night in which there has been a hard frost and a clear sky, with a light breeze from the north, and during which the invalid has usually slept soundly under several blankets, with his window partly open, he wakes up to find the sun shining into his eastern window. And this is a feature which, whatever the weather may be later in the day, is rarely absent. After breakfast, our invalid steps into the street, being then in an atmosphere in which the heat in the sun is 92° F. and in the shade 30° F. A gentle air is stirring from the northeast at the rate of eight miles an hour. The mean dew point is 18.

As the day proceeds the temperature rises to its highest point, between 2 and 3 P. M., being 100° in the sun and 40° in the shade, while the wind, which has veered rapidly from the north to the south, blows with its highest daily velocity, of thirteen miles an hour. After 2 P. M. the wind works back again toward the east, being at sundown northeast, and continuing as darkness falls, to shift back to the northern quarter, whence it blows from 8 P. M. to 9 A. M., its velocity dropping to between seven and eight miles an hour; the temperature of the air at the same time falling from three to four degrees. The ground is usually bare of snow, no rain falls from mid-September to mid-April, and the sun shines unobstructed by clouds. During the three winter months, the cloudy days do not average more than three a month. The effect of such an air is bracing and genial, and being so dry the cold in the shade is very little felt; a medium weight of wrap being all that is needed. The roads are good, and seldom obstructed by snow or mud, and the neighboring hills and plains are full of interesting points to visit, and pleasant sheltered nooks where the invalid can rest under the agreeable heat of the sun, and eat his midday meal without fear of taking cold. The mean rain and melted snow-fall combined, for ten years, is 15.87 inches; of this, about twelve inches fall in the spring and summer, leaving about four inches precipitation to occur between September and March. It, therefore, follows that the fall of snow is infrequent and scanty through the winter. Owing to the dryness and porosity of the soil, and the dryness of the air, with the warmth of the almost constant sunshine, the evaporation of the snow is very rapid. In looking at the temperature record it will be noticed that once or more during the winter the temperature will drop below zero, and sometimes a long way below. Such temperatures rarely last, especially during the day, as the sun so seldom fails to shine. When such cold weather occurs during the day, the wind, instead of taking its usual daily course from the north to the south through the eastern quarter, remains in the north, but has a small velocity, a high wind and low temperature being rarely in conjunction. On these exceptional days, the younger and more vigorous invalids go out to exercise with benefit, but the more delicate remain indoors, bearing their captivity with grace, as something that occurs to them only three or four days in the whole winter. Driving is most desirable in the morning, as there is usually very little wind, but after lunch a strong breeze from the southeast is not uncommon, making walking or riding more pleasant.

In winter, as indeed throughout the year, there is more or less mobility of atmosphere, an absolutely still air being exceptional, but there is seldom in winter sufficient wind to make exercise disagreeable or dangerous, and on the majority of winter days delicate invalids sit out on their porches with pleasure and benefit. Table XII., of comparative velocity, shows that the total annual movement is moderate. And the mean velocity for the year is only 8.58 miles per hour. The mean diurnal variation for a given month does not differ materially from that for the whole year, the fact being that we have a night wind from the mountains, and a day wind from the plains. We are, as it were, upon a seashore, the plains being the ocean, and the mountains the shore, with a land and sea breeze. The mean direction of the wind at night is north; during the day it is from the south. There occurs once or twice in winter a strong warm west wind which is very apt to follow snow, and to remove it with great rapidity. It is called the "chinook," and is a similar wind to the "Fohn," of Europe, coming, probably, from the Pacific Ocean, and crossing the range. A study of this wind is extremely interesting, but space will not permit its discussion here. The spring weather in Colorado, as in most climates, is the least desirable; during late March and early April the chief part of what snow we have falls, and the wind that goes mainly to swell the total of the annual movement occurs. The "Chinook" is apt to blow occasionally during these months. Early March is generally pleasant. However, even in this season, there are seldom more than two or three days at a time when the delicate invalid cannot go abroad with benefit; and this will not occur more than a few times. The mornings are generally open for exercise, even when the afternoons are blustery. The Spaniards are credited with saying that "a bad Spaniard makes a good Portuguese;" so, ruling out the two or three especially bad days, a bad Colorado spring day might be said to make a good spring day elsewhere. There is no regular thawing season, as in the Swiss mountain resorts. During the summer afternoons, thunder showers, lasting twenty minutes or half an hour are common, and it is by these that the bulk of the annual rainfall is made up. The mornings and evenings are rarely anything but bright and pleasant. There is usually during the summer, a week or ten days when it is hot even in the shade, but it is never, even then, equal to the depressing heat on the Atlantic seaboard. During the average summer day the heat, though always scorching under the direct rays of the sun, if the head is protected, owing to the dryness, is not exhausting, and the shade under the numerous trees is cool and pleasant. A hot night, preventing comfortable sleep, is extremely rare. The absence of dew permits all but the most delicate invalids to sit on the porches in the evening with enjoyment. The autumn weather is peculiarly delightful, being dry and bright, with a pleasant temperature, and very occasional rain or snow. It is almost impossible for those who have never spent a few days at least, in comfortable quarters, at an altitude similar to this, to realize how both great heat and cold are so little felt; and how the great contrast between day and night, sunshine and shadow, is experienced without danger, and what exhilaration and health are given by the bright sparkling air. In short, the reply of a former governor of Colorado to an inquiry concerning the air of Colorado, though apparently bombastic, is scarcely untrue, "Sir, it is elixir to the breath, and velvet to the cheek."

I will not here discuss for whom the climate of Colorado is or is not suitable, but it must be evident from such a presentment of its meteorology that it is very positive in its qualities; is as potential for evil as for good, and that there is no climate where prudence and experience are more needed to realize its benefits, and guard against its dangers. The weather tables which follow, have been kindly compiled at my request, with great accuracy and labor, by Professor Loud, Chief of the Colorado College Observatory, and by Mr. Sherwood, in charge of the Government Signal Station. The first series, Tables I. to V., relate especially to the Invalid's Day, and the tables VI. to XII., which follow, to the General Meteorology.

THE INVALID'S DAY.

In the table of "Principal Meteorological Elements," the columns headed A contain monthly means for *all the days* of the respective months. The columns headed B show the effect upon these means of the omission of five days of each month. Thus under "mean temperature" in column B are given the means for all but five days of each month of summer or winter, the omitted days in summer being the five warmest, and in winter the five coldest days. All temperature means in this table are derived from eye observations, the thermometer being observed at 7 A. M., 2 P. M. and 9 P. M., and the daily mean obtained by the formula $\frac{1}{4}[7+2+9+9]$.

Under "Relative Humidity," column B contains the mean of the remaining days of each month, after omitting the five on which the relative humidity was highest; while under "Dew Point," column B shows the result on the mean dew point of omitting the *same* days which were omitted in the "Relative Humidity" column, *i. e.*, the five moistest days, as estimated by their relative, not their absolute, humidity.

The "days of rain or snow" are those on which the total precipitation (rain or melted snow) was not less than one-hundredth of an inch.

Clear days are those in which the amount of cloud is three-tenths or less of the whole sky surface; cloudy days, those in which this amount is eight-tenths or more; other days are *fair*.

The mean velocity of wind, given in miles and tenths, is the mean of all the hours of each month.

TABLE I.—PRINCIPAL METEOROLOGICAL ELEMENTS FOR THE YEAR MAY 1, 1886, TO APRIL 30, 1887.

1886.	Mean Temperature.		Mean Dew Point.		Mean Rel. Humidity.		Total precipitation.	Days of rain and snow.	Number of days.			Barometer at 2 P. M.	Wind. Mean velocity.
	A	B	A	B	A	B			Clear.	Fair.	Cloudy.		
May	62.5	....	31.1	29.2	34.1	23.2	0.12	3	18	11	2	24.036	9.8
June.......	64.4	63.2	47.7	46.8	56.9	52.7	3.06*	13	13	12	5	24.073	8.3
July	71.8	70.4	50.1	48.7	49.8	44.2	2.91	13	13	13	5	24.128	7.4
August	68.9	67.6	54.1	53.4	61.2	58.0	1.39	12	11	11	9	24.115	7.1
September	59.4	....	36.0	33.9	47.8	43.0	0.33	3	18	8	4	24.054	8.9
October ...	50.6	...	28.7	27.2	46.6	41.8	0.28	5	18	7	6	24.049	9.4
November.	32.9	....	....	....	67.0	....	0.19	1	15	8	7	23.964	10.6
December .	33.5	35.7	20.1	19.6	61.3	56.0	0.16	3	15	9	7	23.975	9.3
1887.													
January ...	29.9	33.9	....	....	55.3	....	0.03	2	14	17	0	23.816	11.7
February ..	31.1	34.3	16.5	16.5	60.1	53.9	0.32	3	12	10	6	23.851	10.8
March	43.4	....	18.5	17.6	42.4	36.0	0.19	2	9	17	5	24.001	9.5
April	55.7	....	26.2	24.8	52.2	44.8	1.54	9	8	12	10	23.909	10.8

* On June 2, 1886, some rain, probably not much, was lost by the overflow of the gauge. The precipitation for January, 1887, is estimated, but there can be very little error.

During cold weather in November, 1886, and again in January, 1887, humidity observations were suspended for a week or more each time, so that no means are computed for these months. Their true humidity would probably have been found to be not far from 60 per cent.

TABLE II.—TEMPERATURE OF THE AIR DURING THE WARMER HOURS OF THE DAY, AS DERIVED FROM THE RECORD OF THE DRAPER SELF-REGISTER.

	Number of dates recorded.	8 A. M.	9 A. M.	10 A. M.	11 A. M.	12 M.	1 P. M.	2 P. M.	3 P. M.	4 P. M.	5 P. M.	6 P. M.	7 P. M.	Mean of "Invalid's Day."
Jan., 1886..	29 to 31	.....	19.7	23.3	26.9	29.2	31.1	32.6	31.5	31.0	.....	.....	.....	28.2
Feb., 1887..	25 to 27	.....	30.3	34.4	37.5	40.1	42.3	44.3	44.2	44.7	.....	.....	.....	39.7
March, " ..	13 to 15	.....	41.5	44.1	45.9	48.0	49.7	52.0	54.5	53.6	52.6	50.5	.....	49.2
April, " ..	24 to 26	.....	46.6	48.9	50.7	52.4	52.9	54.4	53.6	54.0	53.6	52.1	.....	51.9
May, " ..	20	.....	57.0	59.1	61.4	63.2	64.3	64.8	64.7	65.2	64.4	63.2	.....	62.7
June, 1886..	12 to 15	65.7	66.7	69.1	71.8	73.1	74.3	74.4	74.3	74.3	73.6	72.5	71.2	71.8
July, " ..	29 to 30	73.8	75.2	77.5	79.3	80.5	81.7	81.5	80.7	79.9	78.7	77.4	75.1	78.4
August, " ..	29 to 31	68.0	71.0	74.0	76.2	77.5	77.9	78.7	78.7	76.9	75.4	74.0	71.5	75.0
Sept., " ..	27 to 30	.....	62.6	66.3	68.6	70.6	72.0	72.2	72.4	71.8	70.8	.....	.....	69.7
Oct., " ..	29 to 31	.....	52.2	55.4	58.8	61.3	62.8	64.1	63.8	63.3	61.0	.....	.....	60.3
Nov., 1885..	29 to 30	.....	41.2	45.2	48.3	50.6	52.2	52.8	53.4	52.9	49.6	.....	.....	49.6
Dec., " ..	30 to 31	.....	31.2	37.4	40.4	43.0	44.7	45.5	45.7	44.4	.....	.....	.....	41.6

The data for March begin with the 17th, and those for June with the 11th. For May they end with the 20th, the day before the date of compilation. Gaps of less consequence, usually extending over a few hours only, occur in the other months, as indicated in the column "Number of dates recorded."

TABLE III.—SUN-TEMPERATURE.

1. *Average number of hours, and tenths, during which the pencil of the Draper Self-registering Sun-thermometer remained above the mean line of the chart, from March to September, 1886.*

	March.	April.	May.	June.	July.	Aug.	Sept.
Average number of hours ...	4.8	2.3	5.8	3.7	5.6	4.9	4.1
Number of days in record....	31	16	30	18	27	26	25

2. *Temperatures indicated by the mercurial Sun-thermometer (blackened bulb* in vacuo) *during the year June, 1886–May, 1887.*

	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May
Highest temp....	137°	155°	152°	135°	124°	110°	112°	123°	114°	121°	124°	129°
Lowest temp	110	138	133	118	104	94	97	95	101	108	98	101

The figures in the last line are not averages, but are determined as nearly as possible so that each has, in its own month, as many of the observed temperatures above it as below it.

TABLE IV.—DIRECTION OF WIND DURING THE WARMER HOURS OF THE DAY, AS DERIVED FROM THE SELF-REGISTERING ANEMOSCOPE.

Showing the number of times the wind's mean direction was registered in each of eight points of the compass, during an hour of the "Invalid's Day"—that is, from 9 to 4 o'clock in winter, 9 to 6 in spring, 8 to 7 in summer, 9 to 5 in autumn, for the year June, 1886–May, 1887.

1886.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Direction not registered.	Total.
June	4	15	11	39	51	11	7	4	218	360
July	22	34	16	76	69	14	7	10	124	372
August	16	32	12	70	41	28	10	8	155	372
September	33	24	9	124	12	1	21	10	36*	270
October	25	19	9	148	23	14	10	18	13	279
November	37	26	15	85	17	9	19	51	11	270
December	22	49	8	86	25	6	10	29	13	248
1887.										
January	39	20	6	67	18	13	39	35	20	248
February	9	20	8	22	85	23	22	26	9	224
March	24	21	7	80	32	11	19	16	100	310
April	20	7	3	73	6	22	10	25	134	300
May	27	11	3	120	26	3	6	4	...*	310
Total	269	268	107	990	405	155	180	236	943	2766

* The record of September, 1886, was continuous from the 5th to the end of the month; that for May, 1887, from the beginning to the 20th. The data were compiled May 21st.

TABLE V.—MEAN WIND-MOVEMENT IN MILES PER HOUR, FOR THE YEAR 1886, FROM THE ANEMOMETER SELF-REGISTER.

	A. M.				P. M.						
	8-9.	9-10.	10-11.	11-12.	12-1.	1-2.	2-3.	3-4.	4-5.	5-6.	6-7.
January	......	8.5	8.5	9.4	9.7	12.7	15.8	13.0	......	......	......
February	......	7.4	7.6	9.8	12.2	11.3	13.3	16.0	......	......	......
March	......	9.9	12.3	12.8	13.5	12.9	14.0	13.2	14.1	13.9	......
April	......	8.9	9.4	11.3	22.2	12.8	13.7	14.4	14.9	14.6	......
May	......	7.0	9.0	10.3	11.4	12.1	12.1	11.8	11.8	11.4	......
June	5.0	5.4	6.2	9.4	10.7	10.9	12.5	11.1	9.7	9.1	8.9
July	6.5	6.5	6.8	7.0	8.0	8.4	8.5	9.4	12.0	10.2	8.5
August	3.3	4.0	5.0	6.4	8.9	10.0	10.4	9.8	7.9	9.9	9.6
September	......	6.9	10.0	11.1	11.4	10.6	12.1	13.5	12.5	......	......
October	......	5.7	7.7	7.4	6.3	8.4	9.7	8.8	11.1	......	......
November	......	12.5	11.2	11.2	11.4	12.2	11.9	12.2	12.5	......	......
December	......	9.9	8.7	9.0	9.2	9.3	11.0	11.0	......	......	......

GENERAL METEOROLOGY.

TABLE VI.—MEAN TEMPERATURE.

	At 7 A. M.	At 10 A. M.	At 2 P. M.	At 9 P. M.	Day.*
January	17.8	27.3	36.0	20.9	24.4
February	21.3	36.3	42.0	27.1	29.4
March	31.4	46.6	52.4	37.4	36.6
April	38.9	50.8	54.7	42.2	43.9
May	50.2	57.9	62.9	51.7	49.9
June	61.5	66.1	72.6	60.2	65.9
July	66.2	75.2	77.6	65.0	67.7
August	64.9	74.3	76.9	63.6	68.1
September	50.1	60.4	68.8	54.2	57.2
October	37.9	52.0	60.6	42.7	47.8
November	27.9	43.9	48.2	31.3	35.5
December	20.2	22.8	38.2	23.2	27.6
Spring	40.2	51.8	56.7	43.8	42.8
Summer	64.2	71.9	75.7	62.9	67.9
Autumn	38.6	52.1	59.2	42.7	47.1
Winter	19.8	28.8	38.7	23.7	27.1
Year	40.7	51.1	57.6	43.3	46.4

* The daily mean is one-fourth the sum of the readings at 7 A. M., at 2 P. M., and double the reading at 9 P. M.

TABLE VII.—MAXIMUM AND MINIMUM TEMPERATURES IN WINTER AND SPRING.

Maximum temperatures.

	1873-74.		1874-75.		1875-76.		1877-78.		1878-79.		1879-80.		1880-81.		1882-83.	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
December	65.0	44.1	59.0	41.7	67.0	51.6	69.0	....	59.5	31.2	...	....	...	...	....	....
January	63.0	46.6	60.0	35.1	62.0	45.5	59.5	....	68.0	37.6	62.5	46.4	63.0	40.5	55.5	36.8
February	59.0	40.2	58.0	40.8	64.0	51.6	61.5	47.1	68.5	47.1	61.0	39.1	60.0	47.6	62.0	....
Winter	65.0	43.6	60.0	39.2	67.0	49.6	69.0	....	68.5	38.3	....	....	....	....	....	....
March	61.0	48.2	67.0	42.0	65.5	49.1	70.5	....	77.0	59.4	....	....	70.0	51.3	67.5	54.9
April	82.0	53.6	71.0	....	79.0	60.8	72.0	60.4	....	....	....	....	73.5	....	70.5	56.6
May	92.0	74.7	84.0	70.3	84.0	67.6	80.0	65.1	....	....	....	....	....	....	80.5	66.4
Spring	....	58.8	....	....	....	59.2	....	....	....	....	....	....	....	....	....	59.3
June	101.0	85.6	91.0	82.2	93.0	77.2	84.0	71.5	....	....	....	....	....	....	90.5	76.5

NOTE.—Column A contains the highest temperature of the month or season; column B the mean of the highest temperatures of the several days.

Minimum temperatures.

	1873-74.		1874-75.		1875-76.		1877-78.		1878-79.		1879-80.		1880-81.		1882-83.	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
December	- 9.0	10.6	- 4.0	15.1	3.0	21.2	-2.0	....	-15.5	5.6	....	....	....	....	....	....
January...	-15.0	14.6	-25.0	3.2	-3.0	12.3	-5.0	....	-18.0	6.5	-15.1	16.1	-14.0	11.3	-25.0	6.8
February..	-17.0	11.6	- 8.0	16.1	-1.0	18.8	7.0	19.6	- 9.5	19.8	-20.5	9.9	3.0	17.3	-20.0	4.7
Winter..	-17.0	11.9	-25.0	11.5	-3.0	17.4	-5.0	....	-18.0	10.6	-20.5	....	-14.0	....	-25.0	....
March	1.0	19.8	- 4.0	16.8	3.0	18.4	13.5	....	12.0	28.6	....	....	- 9.0	24.0	6.0	24.2
April	5.0	23.5	6.0	27.9	7.5	30.9	20.0	33.8	....	....	....	....	15.0	....	19.0	31.0
May.......	27.0	41.7	46.0	42.0	26.0	40.4	30.0	40.5	....	....	....	....	....	....	26.0	38.4
Spring...	....	28.3	....	28.9	....	29 9	....	....	....	....	....	....	....	....	....	31.2
June.......	39.0	50.7	32.6	49.7	37.0	46.7	42.0	49.0	....	....	....	....	....	....	33.0	46.9

NOTE.—Column C contains the lowest temperature of the month or season; column D the mean of the lowest temperatures of the several days.

TABLE VIII.—MAXIMUM AND MINIMUM TEMPERATURES IN SUMMER AND AUTUMN.

	1874.				1875.				1878.			
	A	B	C	D	A	B	C	D	A	B	C	D
June	101.0	85.6	39.0	50.7	91.0	82.2	32.0	49.7	84.0	71.5	42 0	49.0
July	98.0	89.5	48.0	55.5	90.0	76.4	47.0	53.1	90.0	83.2	48.5	57.0
August	92.5	85.5	52.0	55.4	93.0	79.7	42.0	51.6	92.0	81.5	50.0	58.3
Summer	101.0	86.9	39 0	53.9	93 0	79.4	32.0	51.5	92.0	78.7	42.0	54.8
September	87.0	71.0	27.0	42.4	88.0	73.7	27.0	44.9	82.0	69.9	33.5	43.0
October ...	76.0	63.1	20.0	38.6	82.0	68.7	18.0	35.9	79.0	61.7	13.0	32.1
November.	65.0	52.6	2.0	24.4	74.0	52.3	9.0	24.2	66.0	51.5	5.5	25.7
Autumn	....	62.2	....	35.1	....	64.9	....	35.0	....	61.0	....	33.6

NOTE.—Column A contains the highest, and column C the lowest, temperature of the month or season; column B contains the mean of the highest, and column D the mean of the lowest, temperatures of the several days.

TABLE IX.—EFFECT UPON THE MONTHLY MEANS OF THE OMISSION OF FIVE DAYS OF EXTREME TEMPERATURE.

	COLD MONTHS.					WARM MONTHS.			
	All the days.		All but five.			All the days.		All but five.	
	Mean Thermometer.	Mean of Minima.	Mean Thermometer.	Mean of Minima.		Mean Thermometer.	Mean of Minima.	Mean Thermometer.	Mean of Minima.
November .	35 9	24.7	38.8	27.6	May	54.1	70.1	51.9	67.8
December .	24.2	14.0	27.2	16.8	June....	63.7	79.8	62.2	77.7
January ...	24.3	8.0	28.2	11.9	July	68.4	83.0	67.1	81.6
February ..	31.5	15.9	34.5	20.0	August .	67.8	82.3	66.6	80.7
March	39.7	21.4	42.1	24.1	Sept	56.8	71.5	55.0	69.1

TABLE X.—CLOUDINESS AND RAINFALL.

	Average number of days.			Mean monthly rainfall.	Total rainfall.	
	Clear.	Fair.	Cloudy.			
					Spring.	
January	19	9	3	0.17	1872	6.79
February	15	11	2	0.20	1873	2.91
March	15	12	4	0.68	1874	9.95
April	13	13	4	1.23	1875	2.45
May	11	13	7	2.65	1876	4.98
June	13	12	5	1.87	1879	4.39
July	14	14	3	3.65	1883	2.55
					Summer.	
August	13	13	5	2.40	1872	10.81
September	20	8	2	1.78	1873	10.46
October	24	6	1	0.29	1874	1.92
November	19	8	3	0.52	1875	10.28
December	18	9	4	0.43	1878	8.24
					Fall and Winter.	
Spring	39	38	15	1.52	1872–3	1.11
Summer	40	39	13	2.64	1873–4	3.10
Autumn	63	22	6	0.86	1874–5	4.86
Winter	52	29	9	0.27	1875–6	4.15
Year	194	128	43	1.32	1878–9	4.80

NOTE—The "rainfall" includes melted snow.

TABLE XI.

	Elevation.	Barometer.	Mean of 5 years.			4 yrs.	10 Years.		Prevailing Winds.
			Number of days.			Relative Humidity.	Yearly Rainfall	Mean Temperature	
	Feet	Inches	Clear	Fair	Cloudy				
Colorado Springs*	6022	24.06	194	128	43	....	15.87	46.4	N and SE†
Denver, Colo	5294	24.77	177	142	46	45.8	14.77	49.1	S
Santa Fe	7046	23.26	174	148	41	41.4	14.17	48.5	E and SW
Los Angeles	350	29.64	164	148	51	65.8	18.97	59 8	
Salt Lake	4348	25.60	141	131	93	40.3	17.52	51.8	NW and SE
Jacksonville, Fla.	43	30.03	126	152	87	69.0	55.94	69.2	
Augusta, Ga	183	30.14	123	150	92	69.2	48.98	64.2	
Newport	34	29.95	108	140	111	74.3	50.20	50.3	
Boston	142	29.84	105	145	115	68.5	49.47	48.5	W
Chicago	661	29.31	104	154	107	69.2	35.47	49.3	SW
St. Paul	811	29.13	103	158	104	67.3	29.59	43.9	SE
New York	164	29.85	101	155	109	70.2	42.70	51.3	NW

* The data for Colorado Springs are taken from the preceding tables, and the number of years' observations from which each is obtained, is stated in the letter which accompanies them.

† North at night; S E in the middle of the day and afternoon.

TABLE XII.—Comparative Velocity of Wind.

Total annual movement.

	Miles.
Year—April 1878, to March, 1879.	
Colorado Springs	70,912
Year—January to December, 1880.	
Cape May, N. J	134,455
Milwaukee, Wis.	110,924
Philadelphia, Pa.	92,211
St. Louis, Mo.	90,927
Boston, Mass.	85,704
Year—January to December, 1880.	
Newport, R. I.	84,885
San Francisco, Cal.	82,724
St. Paul, Minn.	76,096
New York, N. Y.	74,642
Chicago, Ill.	74,192
Jacksonville, Fla.	57,333
San Diego, Cal.	55,062

A COMPARISON OF DAVOS PLATZ WITH COLORADO SPRINGS.

Under the above title in a recent number of *Colorado Weather* Mr. W. C. Drew gives his personal experience at the two places named, while in search of health. He has furnished me copies of a set of monthly weather charts published at Davos for the months of November and December, 1888, and January, February and March, 1889. These charts are fine specimens of workmanship, enabling the eye to take in at a glance the movements of the barometer, maximum, minimum, mean and solar temperature, amount of sunshine, rain and snowfall, humidity and wind and the number of clear, fair and cloudy days for each month. The records are traced and finished in colors, the whole making a valuable and interesting resume of the month's weather and an advertisement which pays its proprietors well.

I have prepared in as careful a manner as possible the following tables instituting a comparison between Davos and Colorado Springs as health resorts. While the showing is good it is not as full as could be desired. No barometer or solar temperature data can be given for this place and no comparison is therefore possible. The solar record is especially important for supplementing the other temperature records :

For example our average temperature for November, 1888, was 33 degrees, at Davos it was 34; our total sunshine 169¼ hours, Davos 96¾ hours. The temperatures are practically the same, but the sunshine record here is 72½ hours more than at Davos, or, we had nearly 2¼ hours more sunshine per day here than there. But this is a small portion only of the showing we make. The average humidity at Davos was 78 per cent., at Colorado Springs 67 per cent. This increased moisture in the atmosphere at Davos must materially decrease the warming effect of the sun's rays. Their highest solar temperature for November was 108 degrees. We have no corresponding record for the same year, but from a record made by Prof. F. H. Loud for November, 1886, I find recorded a solar temperature of 119 degrees, and during the month nine days are recorded as having over 100 degrees of sun temperature and many more above 90 degrees. The average atmospheric temperature for the same period being 33 degrees. I have every reason to believe the conditions governing during that month and year were of something the same character of November, 1888, and if a solar record had been kept we would have had much the same result.

By the above we can see something of the advantages of weather we enjoy as compared with Davos, as health resorts. The warmth of the sun here during the winter months is so great as to permit the most delicate invalids to ride about our streets during most of the day without danger or discomfort. Mr. Drew tells me that during the winter the snow lies deep at Davos, followed in the spring by the usual accompaniment of slush and mud. Here it takes a heavy snow storm to cover the ground for twenty-four hours and mud is unknown.

The following are the comparisons for the five months charted:

	Average Maximum Temperature.	Average Minimum Temperature.	Average Temperature.	Average Percentage of Humidity.	Number of Hours Sunshine.	Total Rainfall in Inches & Hund'ths.
November, 1888—						
Davos Platz.................	54	14	34	78	96¾	3.03
Colorado Springs............	49	24	33	67	169¼	0.22
December, 1888—						
Davos Platz.................	43	3	28	78	....	0.08
Colorado Springs............	49	21	30	57	....	0.07
January, 1889—						
Davos Platz.................	39	1	22	81	120¼	0.79
Colorado Springs............	39	12	21	59	165¾	0.16
February, 1889—						
Davos Platz.................	44	-6	21	82	54½	4.25
Colorado Springs............	42	14	26	61	161¼	0.60
March, 1889—						
Davos Platz.................	46	2	26	73	127¼	1.01
Colorado Springs............	54	28	39	57	214	0.12

The usual rule in our service is that one inch of snow will equal one-tenth inch when melted (which is the record given here), so by multiplying the record by ten you can approximate closely the depth of snowfall each month.

T. W. Sherwood,
Serg't Signal Corps.

Colorado Springs, July 25, 1889.

PAPER

By Dr. Frederick I. Knight.

BOSTON, MASS.

The following are selections from a paper by Dr. Frederick I. Knight, well known as a specialist in lung diseases, read before the Boston Society of Medical Observation, March 5th, 1888. As the paper is quite long, only those parts are quoted that apply to high altitudes:

"I have often been asked to give the profession some brief practical hints on the choice of a climate for tuberculous patients. I am induced to comply with this request, although there is still a great diversity of opinion among those conversant with the subject, because there seems to be so little attempt even at any guidance of patients in this important matter.

* * * * * * * *

"I wish it to be distinctly understood that I am giving simply my own convictions on this important subject, based upon twenty years' experience and that I do not claim that the principles which guide me are by any means accepted by climatologists. If I designate any special places for residence, it is because they offer some accommodations and are well known, but of course it will be understood that there are scores of similarly situated regions, which would answer as well as far as climatic conditions are concerned.

* * * * * * * *

"The first object to be secured is an outdoor life in a pure air. This undoubtedly has a beneficent local effect, but the chief good comes through the general improvement in nutrition produced by an open-air life, and this is much increased by the ability of the patient to take exercise, and reaches its maximum when he can lead an active outdoor life at considerable elevation (4,000 to 8,000 feet above the sea-level).

"It will be seen as we go over the different classes of cases with reference to their individual indications that some of them are not suited to the severity of the mountain-air treatment. Changes of temperature in the mountains are often very great and very sudden, and though equability is not of so much importance as was formerly supposed, yet a certain amount of vigor is necessary to react properly to them. There seems little doubt that in suitable cases the nutritive activity is much more marked in mountainous regions than on the plains. There are probably several causes for this. (1.) In a properly selected place the air is rarified, causing increased respiratory activity. (2.) The air is very dry and very pure. (3.) The number of clear days when the invalid can be outdoors is vastly in excess of those on the plains.

"Certain modifying influences which pertain to the individual have always to be borne in mind. It can be easily understood that a more rigorous climate, one involving the necessity of more active exercise, can be recommended to men than to women. The difficulty of securing sufficient outdoor life for women, even in a mild climate, constitutes one of the chief factors in the relatively bad prognosis in tuberculosis in women as compared with men. Patients with much bronchial irritability often do less well in a very high altitude than in a low one, and the same is sometimes true of a decidedly neurotic temperament. Age also must be considered in reference to possible removal to high altitudes. A very high elevation should not, as a rule, be recommended to a patient over fifty years of age.

"Wherever a patient goes he should, if possible, consult some good physician of the region, who will lay out for him a plan of life. Many patients make themselves sick and even destroy their chance of recovery by neglecting to consult a local authority for this purpose.

"We will now consider the indications furnished by the types of the disease as before classified:

"1. Those presenting the earliest physical signs of chronic tuberculosis of the apex, who have as yet shown little, if any, general disturbance from the disease, and who complain only of the morning cough and expectoration. It is this class of cases especially which shows the effect of improved ideas of treatment. The change of the old plan of enforced invalidism to an active outdoor life has brought about many cases of arrest in this stage of the disease. It is perhaps not saying too much to say that the prognosis has been changed in this class of cases from very bad to very good.

"While I have had such patients to do well in different climates, some of them without leaving home, the results have averaged far better, in my experience, in those who have sought mountain climate than in those who have pursued any other course. The region which I have found best for this kind of treatment is the eastern slope of the Rocky Mountains, in the States of Colorado and New Mexico, where the altitude ranges from 4,000 to 8,000 feet.

"The question will naturally be asked whether the patient should go at once from the seaboard to such a high elevation, or make a number of stops on his way out in order to become accustomed to the diminished pressure. I have never known any ill effects in patients of this class from making the change at once; but it is especially necessary that they should consult a good local medical adviser at once, that they may be guided from the beginning, particularly in regard to the kind and amount of physical exercise which they should take.

"2. Patients with more advanced disease, showing some consolidation but no excavation, nor any serious constitutional disturbance. The mountain climate is suited to many of this class also, and it is fortunate if they are in condition to try it, but if considerable area of one lung or the apices of both are consolidated, and there is well-marked constitutional disturbance, if the pulse and temperature are both constantly above 100, then it may be well to try some low altitude first.

* * * * * * * *

"3. Hæmorrhagic cases, that is, patients in whom pulmonary hæmorrhage has been perhaps the earliest and a frequently recurring symptom, but in whom there is as yet no marked febrile reaction, nor much physical evidence of disease. This class seems particularly suited to the high altitude treatment. Contrary to the old idea, these patients appear to be less liable to hæmoptysis in high altitudes than on the plains. I do not remember any patient of this class in whom the tendency seemed increased by the removal to a high altitude, and although such patients are usually advised to make several stops on their journey upward, I doubt if this precaution is often necessary. Of course, it will be understood that what is said in this connection does not refer in any way to the hæmoptysis from rupture of a large vessel in a cavity of advanced disease.

* * * * * * * *

"6. Cases of so-called fibroid or interstitial pneumonia. Special indications in these cases have to be considered. If the patient is young and the heart is not enlarged he may be sent to high elevations. If he is over fifty years of age, or if his heart is dilated, or if his cough is very harassing, a lower altitude should be chosen.

* * * * * * * *

"Patients recovering from acute pleurisy or pneumonia, in whom the irruption of tubercle is feared. High elevation is the place par excellence for these. The increased respiratory and consequently increased nutritive activity are exactly what is wanted to prevent the development of chronic disease.

* * * * * * * *

"9. Those with complications of other diseases. In regard to these a good deal of care has to be exercised oftentimes. In case of cardiac affection it may be said that while marked dilation should prevent a patient's being sent into a high altitude, it is not necessary to exclude everyone from such who has a cardiac murmur or who is even known to have organic valvular disease with moderate hypertrophy, but such patients should be carefully watched and regulated in their habits, and should not be sent into the very highest altitudes.

"In regard to renal disease, while it is admitted by the resident physicians that acute nephritis is severe in high altitudes, they do not admit that patients with chronic diseases are made worse, but claim rather that they are benefited by a residence there.

"Patients with intestinal ulceration are said to do badly in high altitudes, but they do badly everywhere.

"In regard to the rheumatic diathesis, it may be said that acute rheumatism is thought to be rather prevalent and severe in high altitudes, and such a tendency might turn the balance in favor of a lower resort. On the other hand, the chronic form of rheumatism does not seem to be made worse by elevation."

COLORADO SPRINGS AND DAVOS PLATZ

COMPARED AS

WINTER HEALTH RESORTS.

By DR. CLINTON WAGNER,
NEW YORK CITY.

The following extracts are from a paper read by Dr. Clinton Wagner, senior surgeon to the Metropolitan Throat hospital, New York, before the New York Academy of Medicine, at its meeting on October 20th, 1887.

Until within a comparatively brief period, a little over twenty years, it was the universal custom of the medical profession to send cases of phthisis pulmonalis to warm and equable climates, such as Madeira, the Riviera, Italy, Egypt, or Algiers; and on this side of the Atlantic the favorite resorts were certain parts of the West India islands, or our Southern states, and, of late years, Southern California.

A quarter of a century ago, had it been suggested to send such cases to spend the fall and winter months in a place like Davos Platz, where the ground for at least six months in the year is hidden by snow, or to Colorado Springs, where the difference between the temperature in the sun and that of the night is sometimes as great as 130°, the proposition would have been regarded as utterly unscientific and would not have been seriously entertained for a moment, at least, by the conservatives in medicine.

The Swiss, it is said, suffer more from nostalgia than any other people; it is probably owing to this that when in foreign lands they become stricken with phthisis they return home to die, to the surprise of themselves and friends many recover.

This fact and the absence of phthisis as a cause of death, in the statistical reports of certain localities in Switzerland, induced Dr. Unger and one other, both Germans, and both suffering from phthisis, to visit Davos Platz. This was in 1865; both recovered, and one is still living in the village.

Dr. Herman Weber, I believe, was the first to advocate the treatment of phthisis by residence in the cold, dry, rarefied atmosphere of high altitudes; he was followed by C. T. Williams, Barney, George, Albutt, Wise, Dennison and many others who sustained the practice.

Experience was not long wanting to establish the truth of the theories, in regard to what was, at that time, novel climatic treatment.

The treatment is no longer experimental; thousands who have sought Colorado Springs and Davos Platz, and who have been restored to perfect health, attest the curative virtues of the climates, but there is still, notwithstanding the many excellent books and papers that have appeared from time to time, describing these resorts, great ignorance concerning them among members of the profession who still cling to the practice as taught from the earliest periods, of seeking equability and warmth as the chief desiderata in selecting residences for their cases of phthisis.

In the following paper I shall give only the result of my personal observations from residence in both places, and which, I trust, will aid in removing the erroneous impressions that have formed in the minds of many, especially in regard to the fitness of Colorado Springs, as a winter resort for phthisis. As I have already stated, the aim of the majority of the profession, until quite recently has been to find equability, warmth and dryness in selecting places of resort for phthisical cases.

There is no section that can claim all three of these qualities—you can find dryness and warmth, or equability and warmth, but you cannot find equability and dryness. The subject of atmospheric moisture and dryness has been most exhaustively investigated by Dr. Dennison of Denver, in several able monographs, to which I must refer you for further information, especially that of a statistical nature. In one of his papers, he states that "statistics prove beyond the possibility of successful contradiction, that variability is a distinguishing attribute of really dry places—whether elevated above sea level or not, and that equability is, as a rule, characteristic of a uniformly damp atmosphere. It only remains, then, to be shown that dryness and variability, with abundance of sunshine, the characteristics of the two resorts under consideration, are more curative of phthisis than resorts on the Riviera, or in Florida, or other semi-tropical places, where the opposite conditions obtain.

The town of Colorado Springs is seventy-five miles south of Denver, and is situated upon a broad stretch of table land near the foot-hills, which lie at the base of the most eastern spurs of the Rocky Mountain range. It is in latitude 39° and longitude 105. It has an elevation of more than 6,000 feet above the level of the sea, and five miles to the west is Pike's Peak, the summit of which is 14,200 feet above the sea. On the north and west it is sheltered by the mountain range, but is open to the east and south. The town was laid out in 1871, by parties from Philadelphia, and its broad avenues and streets running at right angles to each other, and planted with rows of beautiful shade trees, are suggestive of that city.

In describing a climate, which presents so many anomalies as that of Colorado Springs, for instance, the dryness of an inland desert, the cold, bracing air of the far north, an atmosphere so clear that mountains one hundred and thirty miles distant can be seen distinctly, without the aid of a glass, the sun of the tropics, a sky that surpasses that of Italy in loveliness, and scenery which compares with that of Switzerland, one may justly stand in dread of being charged with indulging in the language of the imagination. However, I shall attempt it, and give a plain statement of my personal impressions. From September, till the latter part of April or May, no rain falls; there are no fogs, no mists, and rarely frost; snow occasionally falls, but rarely remains longer than a day or two. It disappears by evaporation, or like chaff before the west wind, which in winter is warm and highly electrical, or it is absorbed by the sandy, porous soil.

The sun shines three hundred and thirty days of the year, or, if we take the six months, from October 1st to April 1st, usually the worst months in regard to weather for invalids, in other sections, one hundred and sixty-five days out of one hundred and eighty-two will be days of sunshine—or on an average less than one-half day in each week that the invalid will be deprived of sunshine.

In the sun the temperature is warm and equable; it is never cold, and during midwinter, and in fact during the entire winter, invalids sit on the piazzas of their houses in the open air without extra wraps. The thermometer when exposed to the sun's rays indicates from 90° to 130° of heat, and there is always a difference of at least 50° between the sun and the shade.

This extraordinary intensity of the sun's heat is due to the fact that the air is so clear, rarefied and free from moisture that but little resistance is offered to the transmission of its rays. The surrounding atmosphere remains cold, at times very cold, the mercury falling to zero and even below. If the atmosphere were not cold and dry the heat of the sun would be almost intolerable. During the night the mercury not unfrequently falls to 4° or 5° below zero. I have known it to reach 25° below zero. But notwithstanding this extraordinary difference between day and night temperature, during the hours of sunshine, from 8 a. m. to 4 p. m. for the shortest days, the invalid may venture out of doors and remain for hours without risk. The most disagreeable feature of this remarkable climate is the wind—November and March are the most windy months. During November every fifth and sixth day, a violent wind storm prevails for a few hours, but there are days and I may say weeks, in which there will be but little if any wind, certainly not sufficient to compel the invalid to remain in doors. Upon the whole, there is less wind at Colorado Springs than I experienced at the famous resorts on the Rivieria, where the irritating and disagreeable mistral blows for days at a time.

In diseases of the respiratory organs, residence at Colorado Springs is especially beneficial. In cases of phthisis pulmonalis, whether catarrhal or tubercular, stationary or progressive—chronic or bronchial catarrh, the results of pleurisy and pneumonia, improvement or recovery may be looked for. Dr. Anderson, who has been engaged in active practice in the town for fifteen years, informed me that he has known several cases of well defined pulmonary cavities recover.

The effect of the dry rarefied air is to increase the appetite; assimilation is improved, the number and depth of respirations are increased, the chest gains in expansive power, more moisture is exhaled than in humid atmosphere, the effect of which is, in time to check secretion from the diseased tissues. The cheeks fill out, the complexion becomes of a ruddy brown, the strength rapidly increases, the spirits revive, and the invalid becomes impressed with the idea that he will recover.

There is a class of invalids who should never be sent to high altitudes; I refer to those of an irritable, nervous or hysterical temperament, in whom there is a tendency to vascular excitement from slight causes. The air is too exciting, too stimulating, and for such cases, resorts should be found at a lower level.

It is generally taught by writers, and accepted by the resident physicians at high altitude resorts, that laryngeal phthisis will be aggravated by the stimulating character of the atmosphere, and the variability of the climate, and consequently such cases are advised to seek a warm and equable climate. If it could be satisfactorily shown that this most fatal form of tuberculosis recovered under the influence of an equable climate, then this procedure would be eminently proper, but under the circumstances, I think further experience is wanting, before condemning high altitudes, for the relief or cure of these cases.

While at Colorado Springs I saw many cases of phthisis pulmonalis that had recovered and others that were advancing toward recovery—accordingly, when I was called in, in consultation, to advise concerning several cases of laryngeal phthisis occurring in connection with pulmonary trouble, and in which marked amelioration of the physical signs had already taken place, together with improvement in the general health, I advised that the cases remain at Colorado Springs. I had the satisfaction of seeing one case, a well marked typical case, recover, and one other that greatly improved, and apparently in a fair way to recover. Dr. Anderson has informed me that he has had one case recover.

Although my experience is limited to the above cases, I think that cases of laryngeal phthisis may safely be permitted to remain at high altitude resorts, provided improvement in the pulmonary trouble and general condition has already taken place.

In certain other affections of the upper air passages, for instance, nasal and naso-pharyngeal catarrh, I do not regard residence at high altitudes of special benefit. At Colorado Springs, where the atmosphere is cool, dry and rarefied, and where, at times, there is much wind and dust, I found these affections very numerous.

At Davos Platz, where the same atmospheric conditions obtain, without the wind and dust, these diseases were quite as prevalent, and at resorts on the Riviera, which I visited, where I found a warm, equable and moist atmosphere, I encountered many cases. Like other acquired diseases which afflict the human family, I think these are ubiquitous, and for relief the patient must rely upon the remedies of the physician rather than climatic influences.

At Colorado Springs the invalid will not be deprived of the luxuries, comforts and conveniences of his eastern home. He can have his choice of living in a hotel thoroughly good in all its appointments, or in an excellent boarding house; or, still better, furnished houses may be rented at reasonable rates, having hot and cold water, gas, etc.

The markets are well supplied with game, fresh meats, fruits and vegetables. There are excellent schools, and also churches of every denomination; there is a theatre, in which many of the troupes en route to San Francisco give one or more performances; there are several circulating libraries and a club. The society of the place, composed chiefly of former residents of large cities, is all that could be desired. Horses are very cheap, either for hire or purchase; riding, especially, is recommended by the local physicians.

Davos is an Alpine valley in southeastern Switzerland, about 5,300 feet above the level of the sea, and running N. N. E. to S. S. W. averaging about one-half a mile in width, and protected by mountain ranges from 2,000 to 5,000 feet above its floor. The village proper is built upon the sides of the mountain above the valley in order to obtain the greatest amount of shelter from the north wind.

The climate, in many respects, resembles that of Colorado Springs; the intensity of the sun's rays at times is quite as great; the temperature in the shade averages lower, ranging from zero to about 25° above.

The north wind, although the current is scarcely, if at all, felt in the village, brings clear skies, warm sunshine and an intensely cold, bracing atmosphere. The south wind, or fohn, as it is called, is warm, irritating, enervating, and disagreeable alike to the invalid and the strong. During its prevalence the sky becomes cloudy and in the early morning a fog or cold, gray mist hangs over the valley, until moved by the wind, or dissipated by the sun; the snow melts rapidly and the atmosphere becomes very humid, the valley being more open to the south, the full force of this unpleasant wind is felt; it is usually the precursor of a fall of snow. Snow begins to fall in the latter part of October, varying, for each fall, from a few inches to one or two feet. The ground remains covered until the early part of April.

The days are very short. I mean the invalid's day. The sun does not rise until 10 o'clock and sets at 3 p. m. An hour is devoted to the midday meal, thus reducing the invalid's outing to about four and a half hours.

Cases of the same character are sent by the physicians in Europe to Davos, as those who derive so much benefit from residence at Colorado Springs. So far as I could judge as a mere observer, without the opportunity of making personal examinations of patients (not being engaged in practice), those who were very ill, or rather the cases that appeared to be of a very serious nature, did not improve; some died, and others were in a worse condition in the spring than at the beginning of the season.

Dr. W. R. Huggard, an intelligent physician and careful observer, who is actively engaged in practice at Davos, in an interesting paper says: "The high altitude treatment offers little prospect of improvement when a large portion of lung tissue is involved. The length of time the mischief has been going on is of comparatively little moment provided always the disease is limited in extent."

On the other hand, cases of most extensive infiltration of lung tissue, and even of cavities, have been known to recover after a prolonged residence at Colorado Springs.

I think Davos is better suited to cases of incipient phthisis, and to those who retain a certain degree of robustness; who are able to indulge in the active outdoor sports of skating and tobogganing. Walking, for those enfeebled by long illness, is difficult on account of the snow, and tiresome through want of variety; the air is too cold for them to sit outdoors or to drive when there is no sunshine. To this class the mere presence of snow is apt to convey a feeling of chilliness or cold.

By enumerating a few of the points of difference between Davos and Colorado Springs, the advantages of the latter will become apparent.

At Colorado Springs, in a given period, one month, for instance, there will be twenty-eight good days; at Davos only twenty. At Colorado Springs, during the shortest days of winter, the invalid may enjoy eight hours of sunshine; at Davos only four and one-half hours.

At Davos, outdoor amusements are restricted to skating and tobogganing, too violent for the feeble; at Colorado Springs, driving, riding, picnic parties, lawn tennis, etc., furnish healthful ways of killing time. At Davos one is compelled to reside in a hotel, which, from the large number of consumptives, becomes, in fact, an over-crowded hospital.

At Colorado Springs one may enjoy the comforts of home life.

In early spring, as soon as the snow begins to melt, invalids are compelled to leave Davos, while at Colorado Springs they may remain with benefit throughout the entire year.

Davos, with all its drawbacks, is unquestionably the most desirable of the high altitude resorts in Europe, but it is with the object of impressing upon you the superior advantages of Colorado Springs that I have given the result of my observations.

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THE CLIMATIC TREATMENT OF PHTHISIS IN THE STATE OF COLORADO.

BY M. CHARTERIS, M. D.,

Professor of Therapeutics and Materia Medica, Glasgow University.

Influence of Climate on Tubercle.—It seems evident that the true treatment of phthisis once begun is to assist nature in limiting the progress of the disease. Climatic treatment is obviously suggested, and the nature of that climatic treatment will now be considered. Tubercle cannot live without moisture. A moist air nourishes its growth, a dry air tends to destroy it. The breathing of pure, dry air, not by fits and starts, but constantly, is what we have to desire, and the question is now narrowed to this, Where can this pure, dry air be found? Undoubtedly in Europe we find this in winter at Davos Platz, but the unfortunate facts stare us in the face that phthisical patients can only remain there during the winter, and that they must remove to some other locality when the snow melts. The healing process, thus commenced but not finished, is again tried by a different atmosphere, not dry, but variable and moist, and again the disease, not in all cases, but in many, resumes its fatal course. Davos Platz has not therefore the elements of a permanent cure, and we must look to other places where the conditions are more favorable. It appears to me that we have these conditions in the air of Colorado at certain stations where the altitude is great. Thus we have at Colorado Springs a charming health resort at a height of 6,000 feet, situated six miles from Pike's Peak, which towers up to the extent of 14,000 feet. Manitou Springs (altitude 6,700 feet) lie at the base of this mountain, but the circumscribed position and the lack of a free current of air and afternoon sunshine render it not such a desirable residence during winter as Colorado Springs. Passing further on in the same range of the Rocky Mountains we come to Denver, with a population estimated at 80,000,* and an elevation of 5,000 feet. This town is well built. The streets are wide, the hotels large, the shops attractive, and the environs interesting. In none of the places mentioned are there cramped surroundings. They are not hemmed in by mountains, but stand on elevated plains, over which a pure, dry air ever sweeps. The seasons are marked by no extreme climatic vicissitudes. There is

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Denver's present population (1891) is 130,000.

no extraordinary heat in summer, and no excessive cold in winter. The average summer heat is 70° F.; the average winter cold is 9.5° F. Winter steals upon autumn with no marked change. The snow that falls rarely rests more than twenty-four hours on the ground, and leaves, when melted, no slush under the foot. In no season of the year is there a prolonged rainfall, for the whole amount annually only reaches fifteen inches. The principal rainfall is from April to the middle of October. The rain is never continuous, only falling at intervals in heavy showers lasting rarely more than twenty or thirty minutes. The medical officer of health of the city of Denver has kindly forwarded to me a summary of the monthly meteorological reports for the last ten years, and statistics as to the mortality for five years. From the meteorological reports I learn that during the periods mentioned the mean temperature of June was 67.9°, of July 70.0°, of August 68.6°. During the same months the total precipitations for June was 1.4, for July 2.4 and for August 1.4. During the same months there were no foggy days, and only twice in each month were there cloudy days, the other days being clear and fair. During my stay at Denver I noticed the diathermancy of the air, or the increased facility by which the sun's rays are transmitted through the attenuated air. This tends, according to Dr. Denison, to an increase in the difference between the sun and shade temperatures, according to the elevation, in the proportion of 1° F. for every rise of 235 feet. Though the sun in August was hot in the open, yet in the shade during the day and in the evening it was always cool.

After citing several cases of phthisis which had been cured or greatly benefited by the Colorado climate, the doctor sums up his general conclusions as follows:

General conclusions.—The testimony of the physicians I spoke to in Denver and at Colorado Springs was this: that the high altitude is specially recommended for (1) early phthisis, or where there is a tendency to this from hereditary predisposition; (2) hæmorrhagic phthisis; (3) chronic pleurisy, where after the removal of the fluid the lung does not expand, and in chronic pneumonia where the consolidation is not removed; and (4) the second stage of the disease, when it appears to be quiescent and there is no evidence of rapid disintegration. The patients who should not be sent are those who suffer from heart disease, chronic bronchitis, emphysema, or where with phthisis in the first two stages there is any nervous irritation and sleeplessness or affection of the kidneys. They were also pronounced on a crucial question—viz., that there was not complete recovery, except in the incipient stage; that there was only a drying-up of the tubercular deposit, which would again become active if the patient returned for however brief a time to a climate which was variable and moist. The continuance of the dry aseptic air was essential, and disregard of this fact led to a rapidly fatal issue. The patient, male or female, in whose case the phthisis is arrested, must necessarily live permanently in Colorado, or in a high altitude. Fortunately, this State is young. There is room for all; and with renewed vitality and vigor, the no-longer invalid can find something to do, either in the open air or in some indoor employment.

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In *The Lancet* recently an editorial article states, and justly so, that "a hospital is but a poor part of the remedy for the misery of consumptive disease." And further, "we also require a large charitable fund for the good of those threatened with, rather than those actually ill of, phthisis. A change of air would do more for such cases than any mere hospital treatment, and is a form of charity that would be worthy of the Jubilee year of Queen Victoria." In a like spirit, but not in such well-chosen words, I ventured to advocate the same fund at the meeting of the British Medical Association in Dublin, and, I may add, the paper was sent to the secretary of the Therapeutic Section on July 1st. I wrote at that time from no personal knowledge of the climate suitable all the year for such cases of phthisis; but I am glad to state that my autumn holiday has enabled me to visit Colorado, and I am convinced that in its pure dry air many patients who linger at home only to die might there get better and work and do well. Would that some millionaire might be induced to give out of his abundance the foundation of a large charitable fund, such as *The Lancet* suggests; and if inclined to do so now, the Latin adage, "Bis dat qui cito dat" should be present to his mind.

CONTAGIOUSNESS OF PHTHISIS.

[Extract from a paper by Dr. B. F. D. Adams, of Colorado Springs.]

Physicians believing in the contagiousness of phthisis, sometimes express the fear that by collecting many phthisical patients in one locality the danger of such contagion is increased, both for the invalids and for their friends who may accompany them. In this connection, it is interesting to quote as follows from an article by Dr. B. F. D. Adams, of Colorado Springs, on the subject of the "Clinical Evidence of the Contagiousness of Phthisis":

"For fifteen years and more Colorado Springs has been a resort for phthisical patients. Certainly it is fair to say that for the last ten years the proportion of consumptives to the whole population, the year round, is larger than any other city or locality in the country. They are in and out among us constantly. It would be difficult to find a house in town that has not been inhabited at some time in its history by one or more suffering from this disease. Then again there is an unusually large proportion of the people here who are predisposed to the disease as far as heredity may predispose them, being those who have come here with brothers or sisters, or other members of a family, who had already developed symptoms. Yet, after consultation with the leading physicians of the city who have been longest in practice here, the experience of one of them covering a period of more than twenty years here, or in this vicinity, I can learn of but seven cases of phthisis which have originated in this city; and of these, one was clearly the result of an injury to the chest from a fall, and two others were doubtful. It is of interest to note also that in most of these cases there was no known exposure to infection."

COMPARATIVE RESULTS OF TREATMENT OF PHTHISIS BY CLIMATE.

The following extracts and tables are from the article on Climate, written by Dr. S. E. Solly, of Colorado Springs, contained in Volume I. of Hare's System of Therapeutics (H. C. Lea & Sons, Phila.):

I have collected together for comparison, in the tables which are appended, the broad results of all reports I was able to obtain, and they are, I think, sufficient to show the general trend of the climatic influences brought to bear upon the disease. Table I. shows the results of treatment in low climates (less than 2,500 feet above sea level) in two groups, the first in open resorts; the second in closed ones. Table II., elevated climates above 4,500 feet, all in open resorts. Each table gives the name of the reporter, the number of cases reported on, the percentage of cured, next of cured and improved together, both of these in all stages. Then the percentage cured, and cured and improved together, of the first stage cases only; and, finally, where treated. Other details, such as those connected with further stages, are purposely omitted in order to bring out more clearly the general curve of the results. The total number of cases upon which the statistics are founded are: treated at low elevations in open resorts, 1,809 cases; in sanitariums, also at low elevations, 2,383 cases, making the total number treated in low climates of 4,192 cases, while a total of 709 were treated at an altitude. These tables are therefore based on a grand total of 4,901 cases.

Table III. gives the comparison, first, between all treated in open resorts in low climates and in sanitariums in low climates; and second, between all treated in low climates, both in open and closed resorts, with all treated, under the same conditions, in high climates.

RESULTS OF TREATMENT OF PHTHISIS.

TABLE I.—Low Climates—(Less than 2,500 feet.)

OPEN RESORTS.							
ALL STAGES.				FIRST STAGE.			
REPORTED BY—	No. of Cases	Cured.	Benefited.*	Cases in 1st Stage.	Cured.	Benefited.*	WHERE TREATED.
		Per ct.	Per ct.	Per ct.	Per ct	Per ct	
1. Dr. C. J. B. Williams,†	1000	4	39	67	5	35	Various low climates.
2. Austin Flint, §	670	7	......	......	......	......	Various low climates.
3. Brompton Hospital,**	20	......	45	......	......	......	Sent from England to Maderia, 1 winter
4. Dr. Hermann Weber,††	24	......	50	41½	......	67	Spent 1 to 4 winters in Egypt.
5. Dr. W. H. Geddings, §§	69	19	61	......	......	......	Winters in Aiken, S. C.
6. Dr. H. A. Johnson,***	6	50	67	66½	50	75	California.
SANITARIUMS.							
7. Dr. H. Brehmer,†††	700	13	......	......	53	......	Gorbersdorf, during 1887.
8. Dr. P. Dettweiler, §§§	1022	13	24½	......	......	......	Falkenstein, up to 1887.
9. Dr. E. L. Trudeau,****	146	11	54	......	......	......	Saranac, up to 1888.
10. Dr. Karl Van Ruck,††††	515	11½	......	15	24	45	Asheville, up to 1890.

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* Benefited includes the cured given in the column preceding and all others whose condition was, on the whole, improved.

† Pulmonary Consumption, by Drs. C. J. B. and C. T. Williams, London, second edition, 1887.

§ Flint on Phthisis. (H. C. Lea, Philadelphia, 1885.)

** Reports on Brompton Hospital, 1867.

†† Klimato Therapie, Vol. II. Ziemensen Handbuch der Allgemeinen Therapie.

§§ New York Record, October 3d and 10th, 1885.

*** The late Dr. H. A. Johnson, of Chicago, reported on 25 cases of phthisis which went to the Western country, 6 going to California and 19 to Colorado.—*American Climatological Association Transactions, 1890.*

††† Reports of American Climatological Association, 1888, "Health Resorts," by Dr. P. H. Kretchmar; quotes letter from Dr. Brehmer.

§§§ Gaz. des Hopit., November 8, 1888.

**** Report of Saranac Sanitarium, 1889.

†††† "Prognosis of Pulmonary Tuberculosis," **Medical News, September 13, 1890.**

TABLE II.—Elevated Climates—(4,500 feet and upwards.)

REPORTED BY—	No. of Cases.	Cured.	Benefited.	WHERE TREATED.
ALL STAGES.				
		Per ct.	Per ct.	
1. Dr. Herman Weber,[*]	106	36	75	Swiss Alps.
2. Dr. Theo. Williams,[†]	141	41	75	Swiss Alps.
3. Dr. H. A. Johnson,[§]	19	37	79	Colorado.
4. Dr. Chas. Denison,[**]	202	37	80	Colorado.
5. Dr. S. A. Fisk,[††]	100	35	67	Colorado.
6. Dr. S. E. Solly,[§§]	141	33½	67½	Colorado.
FIRST STAGE.				
1. Dr. Herman Weber.[*]	66	51½	64	Swiss Alps.
2. Dr. Theo. Williams,[†]	65	63	90	Swiss Alps.
3. Dr. H. A. Johnson,[§]	47	44½	78	Colorado.
4. Dr. Chas. Denison,[**]	37	75	92	Colorado.
5. Dr. S. A. Fisk,[††]	42	66	90½	Colorado.
6. Dr. S. E. Solly,[§§]	44	58	87	Colorado.

Of the six observers, the first three, viz., Drs. Weber, Williams and Johnson are consulting physicians, who selected the cases and sent them to an altitude for treatment, and the last three, Drs. Denison, Fisk and myself are resident physicians, who had no control over the selection of the cases, and had to make the best of the material we received, many of our patients having come on their own judgment, or on the advice of physicians unacquainted with the principles of climatology. This, probably, accounts for what the original records would show, that the quality of the cases treated by the last three observers was inferior, and, therefore, the gross results not as good as those of the first three.

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[*] London Lancet, May 12, 1888.

[†] Vol. 71, Transactions Royal Medico-Chirurgical Society of London, May 8, 1888.

[§] American Climatological Association Transactions, 1890.

[**] "Rocky Mountain Health Resorts." (Houghton, Mifflin & Co., Boston.)

[††] Transactions of Colorado State Medical Society, 1889.

[§§] Transactions American Climatological Association, 1890. These cases are from the records of my practice in Colorado Springs during the past sixteen years, and were taken as they were able to be followed up accurately to date. In order to allow a reasonable time to elapse to judge of results, none were taken whose first visits were paid less than two years before the report was made, and in most of them many years ago. The number was limited to 141 for comparison with a like number treated in the Alps and reported on by Dr. Theo. Williams. The cases were not in any way selected, but as the history of any one was completed it was put in the tables, till the required number was reached. Although not giving a continuous record, yet taken at random as they were as regards results, and being widely scattered over the period of my practice, they may be considered to give a fair average sample of it. The results of each case can be relied upon as known to me and not merely inferred.

TABLE III.—Comparison Between Open Resorts and Sanitariums in Low Climates.

ALL STAGES.	No. of Cases.	Cured.	Benefited.
		Per ct	Per ct
Open Resorts, in low climates	1724	6	46
Sanitariums, in low climates	2443	13	27½
FIRST STAGE.			
Open Resorts, in low climates	625	5	45
Sanitariums, in low climates	89	31½	45

COMPARISON BETWEEN HIGH AND LOW CLIMATES.

LOW CLIMATES.	No. of Cases.	Cured.	Benefited.	HIGH CLIMATES.	No. of Cases.	Cured.	Benefited.
		Per ct	Per ct			Per ct	Per ct
All stages	4167	10	36	All stages	709	36½	74
First stage	714	20	44	First stage	350	62	84½

GENERAL CONCLUSIONS.

The reports, which are all that could be gathered, are from sixteen different sources, reported on by the best known observers in Europe and America, based on a total of nearly five thousand cases. The climates in which the cases were treated were various and widely scattered, so that the influence of every kind of climate is here represented. The deficiencies in some of the reports undoubtedly prevent a fair comparison at certain points, and in the reports where the number of cases is few the results are naturally sometimes too high or too low. The care or opportunities in following up the cases, of course, varied much with the different observers, as well as their degree of conservatism in making statements, and their views as to the exact meaning of the terms, cured and improved. Therefore, a close comparison between each of the several sets of observations cannot be made. When, however, we group them together, the law of averages comes in, and the optimism of some observers is balanced by the conservatism of others. The differences in the quality of the cases prevents a close comparison between them. The general truth of the reported results, however, is shown by the close resemblance of the figures in the different groups. Especially is this the case in the three chief divisions made, viz, of reports of cases treated: 1st. In open resorts in low climates. 2d. In sanitariums in low climates. 3d. In low climates, both in open and closed resorts (sanitariums) combined; and 4th. In open resorts in high climates.

GROSS RESULTS.

In contrasting those treated in open and closed resorts in low climates, we find twice as many were cured in closed as in open resorts, in all stages, while, in the first stage, there were probably more even than this, but the figures under this head, for open resorts. are too scanty to make a fair comparison; while the total benefited is about the same, being even higher, at all stages, in open resorts. Whether this is due to a different use of the somewhat elastic term, "improved," or some other accidental cause, I do not know, but it seems somewhat out of harmony with the usual tendency of the figures. Taking the results from all treated in low climates, compared with all treated in high climates, we find that three and a half times as many were cured in high climates as in low, in all stages; and in the first stage alone, three times as many; while only twice the number were benefited both in all stages and in the first stage alone. Comparing those treated in low climates in closed resorts with those treated in high climates in open resorts, the difference in cures is not as great, being about twice instead of three times as many.

The moral taught is that a consumptive treated in an open resort in an elevated climate has three times as good a chance of recovery as has one treated in an open resort in a low climate, and twice as good a chance as one treated in a sanitarium in a low climate.*

In prescribing a particular resort for a given case of consumption, the application of this moral, however, is dependent on many minor points that cannot be here discussed, but the broad truth remains that *of all climatic factors in the treatment, as well as in the prevention of phthisis, elevation is by far the most powerful of them all.*

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*The treatment in sanitariums in high climates is too recent to furnish any reliable statistics as yet, though my observations in the Bellevue, at Colorado Springs, lead me to believe that the same relative improvement between cases treated in open and closed resorts in low climates as is shown in these tables, can be demonstrated in high climates also.

HEALTH RESORTS FOR LUNG TROUBLES.

A LETTER

CONTAINING PERSONAL EXPERIENCES, PUBLISHED IN THE NEW YORK TRIBUNE OF MAY 22, 1887.

BY LOUIS R. EHRICH.

COLORADO SPRINGS, May 8.

The great prevalence of lung disease, my conviction that the disease can be arrested and in many cases cured by the proper climatic influences, and, further, my knowledge of the difficulty of obtaining unprejudiced information as to the character of climates—all these considerations have induced me to publish the following record of my experience as a lung patient.

I was a merchant in New York City. Like my more prominent fellow-merchants of that mad metropolis, I was consumed with a wild ambition, not only to develop my business to vast proportions, but also to outdistance all competitors. My partners and I worked with intense energy. We condensed the work of a month into a week. We centered our whole life in our business. We prospered rapidly, but increased prosperity only added fuel to our ambition.

The question of health never entered into my calculation. I allowed myself no vacation—never realized the need of a rest. For several years my face had worn that pale, haggard expression which might be called the New York business man's complexion; but I experienced no indications of weakness or ill-health. One morning in August, 1878, I awoke with a strange, warm, soft feeling in my throat. It was a hemorrhage from the right lung. Then the overwork of years declared itself, my nervous force was completely exhausted, and a violent fever robbed me of flesh and strength.

"Complete change," the doctors said, "Europe, a year's rest!" I asked, "Where shall the year be spent?" My own physician frankly admitted that he knew little about European climates; so we consulted one of the great authorities. The authority advised that I spend the winter in Rome. Let me say right here that, in my opinion, the winter climate of Rome is one of the worst in Europe for a consumptive, and further, that this first consultation proved to me what many subsequent consultations have proved more strongly, namely, that American physicians (and European physicians, for that matter,) know very little about climates. A successful American physician is just as busy in his business as I was in mine. He may read reports of physicians, who naturally are inclined to extol the climate of their own localily, but he knows nothing on the subject from personal experience, and personal experience is the only safe guide in the question of judging climates.

To Europe I went. On the road to Marseilles, whence I intended to take steamer for Rome (via Civita Vecchia), I fell into talk with an Englishman, who informed me that the climate of Nice and Mentone was infinitely preferable to that of Rome. As I was only a few hours' travel from Nice, I resolved to go there as an experiment. Never shall I forget my first day at Nice! Coming from the snow and piercing damp of Paris to the soft, balmy air of the Riviera, with its semi-tropical vegetation, its lovely walks and drives, its enchanting outlook on to the deep blue Mediterranean, it seemed to me as if I had been transported to paradise. That winter I spent on the Riviera, principally at Mentone. Finally, on March 1, much against the advice of friends, I started for Rome. I spent seven weeks in the Eternal City, subsequently going to Sorrento, Florence and Venice, but at none of these places did I find, even late in the spring, the weather as mild and sunny as it had been at Nice and Mentone in midwinter. About the middle of June I arrived at Munich and consulted Professor Buhl (at that time a great south German medical authority) as to where I should spend the summer. I had heard a great deal of Davos, Switzerland, and wanted to go there. Professor Buhl, however, informed me with an air of wisdom that the altitude of Davos (5,000 feet) was provocative of hemorrhage, and sent me first to Soden, a pleasant little watering place near Frankfort-on-the-Main, and later to Heiden, an insignificant resort near Lake Constance, where I felt so miserably that I was glad to leave it. The summer over, physicians pronounced me "almost well." Consumptive reader, never let the phrase "almost well" impose upon you! As a Scotch physician, to whom I repeated the expression, truthfully said: "It is like saying that there is only a very small spark still alight in the powder magazine. That tiny spark may produce death and destruction. No rational man ought to be satisfied until that last spark has been thoroughly stamped out."

I returned to New York in October and remained there all winter. Three hours of every morning I gave up to business, and the afternoons I devoted to horseback riding. I seemed to improve constantly, so that when, the following June, I had my lungs examined by the late Dr. Austin Flint he pronounced me perfectly well. To make assurance doubly sure I spent that summer camping out in the Adirondack mountains. I continued to gain in weight and strength. In the middle of August came one of those drenching rains common to the Adirondack region. It rained three successive days, soaked the camp and surroundings, and lowered the temperature very considerably. I caught a severe cold, which I could not throw off in the mountains, and which still clung to me when I reached New York in September. Consumptives, give heed! I looked the picture of health, I weighed twenty pounds more than before I was first taken sick, and only three months before Dr. Flint had pronounced me perfectly well. I began to devote more time to business, giving up only part of the afternoon to horseback riding. Five weeks had scarcely passed when, riding in Central Park, I began to cough violently, expectorated blood, and at once heard in my chest that dreadful crunching sound which betokens a hemorrhage. Scarcely had I reached home and bed before a violent hemorrhage declared itself. The hemorrhages recurred again and again, and it was six months before I left my room. I went to Aiken, South Carolina, for six weeks. It did me no good. The summer I passed at the Mountain House, Cornwall-on-the-Hudson, where my health steadily improved. In the fall I went to Europe. The first three years I spent at the following places: Three winters at Mentone, two spring seasons in Italy, one spring at Merau in the Tyrol, two summers at Reichenhall, Bavaria, one summer in Engelberg, Switzerland. I improved somewhat all the time, but, altogether, very inconsiderably.

The conviction finally forced itself upon me that there was no curative quality for lung trouble in the air of the Riviera. It is a delightful place to live (barring cholera and earthquakes), and for consumptives whose cases are extreme, who have high fever and little vitality, it probably is a very good place to spend the winter. In my own case, however, it produced no benefits, so I determined, against the advice of several physicians, to try higher altitudes. The summer of 1884 I ventured to spend at Saint Moritz (elevation 6,000 feet) and the following winter, from September to April, at Davos, Switzerland. Davos is so peculiar in its climate and surroundings, it has gained so great a reputation as a resort for consumptives, that an extended description of it is warranted.

Davos lies in a well sheltered valley, about half a mile wide and two miles long; altitude 4,800 feet above sea level. It is a village of hotels built on the side of a mountain, so as to escape the draught of the valley below. The snow generally falls there in October, and the ground remains snow-covered until the middle of April. The nights are very cold; the days, so long as the sun shines into the valley, very warm. During the months of January and February I ate my lunch on a veranda in the open air, the awning drawn overhead to shield us from the sun, whereas five feet from where we sat the snow lay three feet deep. Back of the hotels the mountain rises several thousand feet. For a thousand feet up a footpath, leading to an abandoned hut called the Schatz-Alp, is thoroughly kept in order by the municipality and forms the principal walk of the patients.

The motto of Davos as regards climate and mode of life is "Harden yourself!" The more hardy patients walk a great deal, climb up to the Schatz-Alp every day, and are out in all weather. All the invalids sleep with their windows wide open. Many skate and toboggan. Be it remarked that during the winter one seldom takes cold at Davos. Let me sum up the advantages and disadvantages of this celebrated resort.

Advantages:

1. Altitude of nearly 5,000 feet. The lungs get more exercise, and increased exercise gives them increased elasticity and strength.

2. The air is invigorating, dry and cold, and yet warm enough during sunshine to allow delicate patients to sit out of doors.

3. There is no dust. The snow prevents this.

4. There is no cloudy, no foggy weather. Except when snow falls the days are all sunny.

5. There is little wind, very little up where the hotels are situated.

6. The hotels are all very well managed (especially Kurhaus Holsboer), and go far toward supplying home comfort.

Disadvantages:

1. Davos is one great hospital and nothing else. All who go there go for their health only.

2. The patient is penned up in a little snow-covered valley. His walks are limited to the main street or to the climb up the Schatz-Alp. He is naturally compelled to meet the same consumptive acquaintances a hundred times a day. The patient feels imprisoned. He knows that he cannot go beyond the limits of this diminutive valley without imminent danger. Before the winter is half over the daily sight of the same barren, wintry scene, of the same consumptive faces, produce a strong feeling of ennui. One longs for spring as a prisoner longs for the day of his deliverance.

3. The life is all hotel life. There are no furnished cottages for rent, and families would find it difficult to keep house if there were. The crowding together of consumptives in a hotel, the close contact with very sick invalids, the necessity of constantly breathing consumptive exhalations, the shock which a death in a hotel brings, the incessant mutual inquiry and conversation of the guests about their condition, all this is certainly a great injury.

4. The air is too chilly, even when sun warmed, to allow patients to drive with safety. Skating and tobogganing are too violent for the majority. So there is practically no out-of-door amusements for the very sick.

5. The absence of wind has its objections. Very frequently the smoke rests stationary over the town like a bank of clouds. Wind means natural ventilation, and ventilation is very necessary for a town of consumptives.

6. In the early spring, say from the 15th of March, the snow begins to melt. Sore throats and colds abound. The invalid would like to get away, but he dare not, because it is still too cold in other resorts. The snow melting period is always dangerous in Davos.

7. The topography of Davos is such, and this is a very great disadvantage, that the sun rises very late and sets very early. There are unclouded winter days in Davos when there is barely four and a half hours of sunshine.

8. Hardly any one would think of making Davos a permanent residence. No one could afford to unless he had sufficient means to live without work, or went in the hotel business. There is no other industry.

9. Finally, in case the climate disagrees with a patient it is very difficult and very dangerous to change. To reach the Riviera requires a five-hour stage coach ride to the nearest railroad station, and a long and circuitous railroad trip through the St. Gotthard to Milan, Genoa, and thence to the Riviera, involving the necessity of spending two to three nights on the road and making five changes of cars.

Now as to results: In my own case Davos had no appreciably beneficial effect, except to make my lungs less sensitive. A very near relative spent three consecutive winters at Davos. He felt better while there, but it effected no cure. Personally I know of no case in which a cure was brought about at Davos. Six of the acquaintances of my Davos winter are dead. None the less, I have no hesitation in saying that, in my opinion, Davos is by far the best curative winter resort in Europe for lung patients.

The spring of 1885 I passed at Baden-Baden. There I received letters from a friend and fellow invalid who had also tried the European climates, but who, being compelled to return to the United States had spent the winter of 1884-'85 at Colorado Springs, Colorado. He wrote so warmly in praise of the Colorado climate, and I was so tired of living in Europe that I resolved to follow his example. So after visiting Holland and Belgium during the summer, we returned to New York in the fall. I at once consulted three New York medical celebrities. Number one tried to dissuade me from going to Colorado and endeavored to send me back to Davos. Number two shook his head and seemed to expect dreadful results. Number three very sensibly said: "Go and try it. If it does not agree with you in six weeks go on to Santa Barbara." I must remark that not one of these three celebrities knew anything about the existence of Colorado Springs and that to each of them Colorado meant Denver.

On December 2nd I left New York for Colorado. I went with fear and trembling. Chicago gave me a slight taste of its climatic possibilities in the shape of a medley of wind, hail, snow, sleet and rain. So far as the travel went my two days' railroad ride from Chicago was a rest and a pleasure, but when I looked out at the straggling, neglected, desolate looking towns of Nebraska and thought that possibly Colorado Springs might resemble these, my heart sank within me. I had expected to find Colorado very cold. Judge then of my glad surprise when, at 7 in the morning, I stepped out of the cars at Denver on the 7th of December. The sun was pouring down a flood of warm, bright light. The air was very mild, yet there was a light, bracing tone in it which made it a delight to breathe. Every inhalation was like a draught of nectar. I thought of snow-bound Davos and was happy. Three hours later brought us to Colorado Springs. Our friends had secured a furnished house for us. Our expectations were exceedingly modest, so that our astonishment was great when a short drive through wide, beautiful streets brought us to a comfortably furnished home equipped with all modern improvements—bath-room, running water (cold and warm), gas, open fireplaces and steam heater, telephone connection and all.

From the day of my arrival my health began to improve. After now having spent two winters and one summer here, I feel warranted in saying (and my range of observation includes Old and New Mexico, which I have lately visited) that, taking climate and all other conditions into full consideration, Colorado Springs is the best resort on the face of the globe for an invalid with lung disease.

No climate is absolutely perfect, so I shall first call attention to the only blemish in the climate of Colorado Springs. We have some wind and, at times severe wind, yet the number of days when an invalid is compelled to remain indoors on account of strong wind is not more than the number he is compelled to spend indoors at Davos on account of the falling of snow. Furthermore, if an invalid finds the wind objectionable he can readily escape it by changing to Manitou Springs, (10 minutes by rail), which is even more sheltered than Davos.

Now as to the advantages of Colorado Springs:

1. Its altitude is six thousand feet above sea level. To the north the land rises gradually, thickly wooded, to the height of 7,500 feet. Six miles to the west runs a spur of the Rocky mountains culminating in Pike's Peak, 14,200 feet high. Thus the city is sheltered to the north and west and is open to the south and east.

2. The sunshine is almost uninterrupted. During the winter there is no rain, no cloudy or foggy weather, and hardly any snow. Snow falls very rarely, and when it falls it disappears quickly and almost miraculously, leaving neither mud nor dampness behind.

3. As the city lies open to the east and the higher mountains to the west are at some distance, the daily duration of winter sunshine is very great—fully forty per cent. greater than at Davos.

4. The character of the soil is porous. This is a very important advantage. If rain or snow falls in Denver, for example, the result is mud, and mud means continued dampness. There is no mud at Colorado Springs.

5. The invalid is not restricted to hotel life. Boarding houses and furnished houses abound. Housekeeping, owing to the presence of a large number of very superior stores, is made easy. Should the invalid prefer hotel life, he will find the hotels first class, but be it said that no American hotels are so carefully managed as to comfort nor so particular as to ventilation as are the hotels of the Riviera or of Davos.

6. There is nothing of the hospital character about Colorado Springs. Of its 7,000 inhabitants,* many were never sick, and many who once were are now perfectly cured. The invalids are scattered to such an extent, there are so many amusements and points of interest to disperse them, that one never feels the depressing influence of being in a great consumptive hotel.

7. Amusements are very plentiful. There are few cities in the world that offer such a variety of beautiful rides and drives. Invalids are out riding or driving nearly every day in the year. Many people of wealth and culture reside here. society is pleasant and clubs of all kinds

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*12,000 in 1891.

abound—social clubs, reading clubs, musical clubs, fox-hunting clubs, etc., etc. An invalid here has neither time nor disposition to mope.

8. One of the objections I found to Davos and the Riveria was that when spring came the patient was chafing to get away. I do not find this at Colorado Springs. Nor is it necessary. The summer climate is just as healthful and just as exceptional as the winter climate. In fact, the reputation of Colorado summers brings thousands of tourists here every summer. The days are warm, not uncomfortably so, and the nights are always cool enough to make a heavy blanket necessary. Some invalids go up into the beautiful near-by mountain parks (8,500 to 10,000 feet high), and live at a farm house or camp out. Some change to Manitou Springs and enjoy witnessing the summer gayety. The majority remain here and are equally benefited.

9. If a patient feels disposed to make a change during the winter, he has a large choice of places which he can visit with safety. He may go to Denver or to any of the towns between Colorado Springs and Poncha Springs inclusive. This belt of territory is all favored with an exceptional climate. On the other hand, if an invalid finds that the climate does not agree with him, he can travel hence to Southern California quickly and comfortably.

10. Families will find here all necessary advantages. They will discover that Colorado Springs combines eastern comforts and eastern culture with western sociability and western freedom. There are good public and private schools, and there is a well-conducted college offering all the advantages of a scientific and classical education.

11. Most Americans, whether from choice or necessity, want to have some business interests. Colorado Springs is not a great business city, but, owing to the advent of several important railroad lines during the coming year, it will improve greatly in this respect. None the less, even at present, cattle ranching, sheep ranching and farming of all kinds offer good returns for investments; many enterprises are continually developed here in which capital will win large profits, and merchants in every line of business are making money. Justice compels me to say that the ideal city, so far as the combination of healthful climate and business opportunity is concerned, is Denver. It is not nearly so perfect a health resort as Colorado Springs (it has the objections of being a large busy city, of having an adobe soil, and of being less sheltered), but it is a much better place in which to build up a large business. My advice, therefore, is: "Come here and get well. After you are well, if no business opportunity presents itself here, go to Denver and you can both make money there and keep well at the same time."

12. Every patient when he first learns that his lungs are affected, thinks as I did, namely, that after sufficient rest and change he can safely return to his old home and old occupation. This is a dreadful mistake, and does not realize itself once in a thousand times. Sooner or later (and alas! very often too late), the consumptive invalid stands face to face with the fact that he must make a life change of climate or of occupation, or of both. If he has tried Colorado Springs and found

that the climate suited his case, he knows that, if necessary to change permanently, he can make his home in a beautiful city, offering all comforts and advantages, and peopled by a highly educated community. In the year and a half that I have lived here many acquaintances have gone away. Some went to California, others to Ashville, N. C., others to Europe, and many to their eastern homes. All have come back, and all with the intention of making this their permanent home. The fact is, that when the glory of this climate becomes known, the exceptional beauty and healthfulness of this city, the remarkable scenery of the surrounding country, the character of its society and educational advantages, and its central location for excursion or travel, many people of wealth, who are not invalids, but who wish to escape the fog, damp, excessive heat and cold of the east, will make this the home of their choice.

13. A great advantage of this climate is that its effect very soon declares itself. It is not necessary to spend four winters here, as I did at Mentone, in order to learn that the climate is not benefiting your case. You soon discover whether the effect is good or bad, and must act accordingly.

For some types of lung trouble this climate is deadly in its effect. It is difficult to particularize these cases, simply because every case of lung disease varies with the invalid. Speaking broadly, invalids with high fever, with rapid waste of tissue and with low vitality, should not come here. None the less, I am assured by physicians that some of those very types of consumption have done remarkably well here.

A word as to results: The only stranger who has had the courage to make his permanent home at Davos is Mr. J. A. Symonds, the distinguished writer on "The Renaissance." He enjoys fair health, and if one takes into consideration the gravity of his case when he first went to Switzerland, even remarkable health; but if one compares Mr. Symonds physically with the many hale, hearty, broad-shouldered, deep-chested, red-faced giants of strength whom inquiry discovers are men who came here several years ago under supposed sentence of death, one acquires tremendous respect for the curative possibilities of this wonderful climate.

I have written strongly and earnestly because I feel so. If I had known the facts as stated above I should have saved over five years of fruitless wandering in Europe and would to-day be far richer in health and richer in purse. To-day Colorado Springs is comparatively little known, but I venture to prophesy that when physicians and invalids shall have fully tested its wonderful resources in climate and all its other favorable conditions, patients will be crowding to it from all parts of Europe and America, and it will become the great sanitarium of the world for curable cases of consumption.

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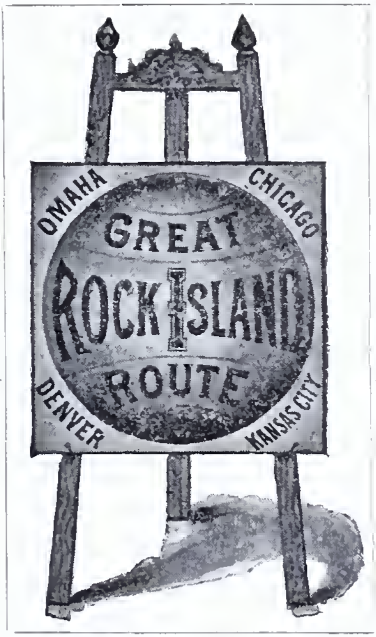

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